Australian Government

Murray–Darling Basin Authority

What we've heard: Peak groups' perspectives to support the 2025 Basin Plan Evaluation

December 2024

Published by the Murray–Darling Basin Authority
MDBA publication no: 36/24
ISBN (online): 978-1-922699-83-1

GPO Box 1801, Canberra ACT 2601
engagement@mdba.gov.au
1800 230 067
mdba.gov.au

Cataloguing data
Title: What we've heard: Murray–Darling Basin Peak groups perspectives on the Basin Plan implementation to support the 2025 Basin Plan Evaluation, Murray–Darling Basin Authority Canberra, 2024. 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
We acknowledge the Traditional Owners and Custodians of Country throughout the Murray–Darling Basin and their continuing connection to land, waters and community. We offer our respects to the people, the cultures and the Elders past, present and emerging.

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

In this report, we're sharing the views and perspectives of Peak groups. We know we get better outcomes when we work with Basin communities, First Nations, industries and governments. We encourage people with a range of views to share their ideas, interests and concerns with us. We listen, learn and make decisions based on what we've heard, in conjunction with the best available knowledge and evidence. We also share who we're engaging with, and what we've understood from them.

Table of Contents

Acronyms

ACSEES	Advisory Committee on Social, Economic and Environmental Sciences
BDL	Baseline Diversion Limit
CEWO	Commonwealth Environmental Water Office
CEWH	Commonwealth Environmental Water Holder
ESLT	Environmentally sustainable level of take
EWAG	Environmental Water Advisory Group
EWR	Environmental water requirements
HEW	Held environmental water
KPI	Key performance indicator
MDA	Murray–Darling Association
MDBA	Murray–Darling Basin Authority
NIC	National Irrigators' Council
NRM	Natural resource management
PEW	Planned environmental water
RGA	Ricegrowers Association
SDL	Sustainable diversion limit
SDLAM	Sustainable diversion limit adjustment mechanism
SFI	Site-Specific Flow Indicator
WRP	Water resource plan

Introduction

Purpose of this report

This report provides insights and perspectives from the Murray–Darling Basin Peak Groups Briefing (Peak groups) on Basin Plan implementation. These 39 invitees represent various groups who have a national or Murray–Darling Basin (the Basin) focus. They span environment, natural resource management (NRM), local government, irrigation, farming, industry, and ecotourism interests. Peak groups were invited to a briefing to share their views and perspectives for the purpose of informing the 2025 Basin Plan Evaluation.

The content of this report reflects the views of the individual Peak groups who contributed. It does not reflect the views of the Murray–Darling Basin Authority or the Australian Government.

The following 12 Peak groups shared their views on the implementation of the Basin Plan for this report:

- Australian Grape & Wine
- Cotton Australia
- Ecotourism Australia
- Healthy Rivers Ambassador for the Basin (representing the Lifeblood Alliance)
- Inland Rivers Network
- Murray–Darling Association
- Murray–Darling Conservation Alliance (consisting of Environment Victoria, Nature Conservation Council of NSW, Conservation Council South Australia and Queensland Conservation Council)
- National Irrigators' Council
- Nature Conservation Council of NSW
- NRM Regions Queensland
- NSW Irrigators' Council
- Ricegrowers Association of Australia

These Peak groups from across the Basin were invited to share their opinions with the MDBA through a direct submission. They were asked to detail:

- what has worked well?
- what has not worked well?
- What was unexpected?
- what can be done better in the Basin?

They were also encouraged to share submissions to previous engagement processes that they felt addressed these questions. The comments collected in this report represent a snapshot of their diverse views. Each submission, whether directly addressing the questions posed in this report or being referred to by the individual Peak groups, is either hyperlinked within this report or can be found in the appendix of the report.

Basin Plan

The *Basin Plan 2012* (Cth) (Basin Plan) provides a coordinated approach to managing Basin water resources under the *Water Act 2007* (Cth) (Water Act). The Basin Plan includes an adaptive management framework, with annual and five-yearly reporting requirements for jurisdictions and relevant Commonwealth agencies as well as evaluation obligations for the MDBA.[1] There are 21 different reporting requirements (referred to as Matters) set out in Schedule 12 which relate to different elements of the Basin Plan.[2]

2025 Basin Plan Evaluation

The Basin Plan Matter reports together with other evidence sources, including this report, are intended to inform the MDBA's evaluation of the effectiveness, appropriateness and impacts of the Basin Plan.

The Evaluation of the Basin Plan is to be informed by the Basin's environmental condition, Basin State and Commonwealth agencies' monitoring and reporting, as well as community views and opinions on the effectiveness of the Plan.

The Evaluation will inform the 10-yearly review of the Basin Plan. It will look back on the last 10 years to see what has been achieved and worked well, and what could be done better. It will also cover anything unexpected that arose. The MDBA and Basin States must have regard to evaluation findings and recommendations when proposing amendments to the Basin Plan or exercising powers and functions.[3]

[1] Chapter 13 of the Basin Plan
[2] The obligation to report is set out in Basin Plan s13.14
[3] Basin Plan s13.12. The obligation also applies with respect to findings and recommendations of reviews and audits.

Executive Summary

Twelve Peak groups in the Basin accepted the invitation to answer the following questions posed by the MDBA in relation to the implementation of the Basin Plan:

- what has worked well?
- what hasn't worked well?
- what was unexpected?
- what can be done better in the Basin?

The questions were responded to via direct submissions and through references to previous submissions.

Peak groups represent a range of interests from environment, NRM, local government, irrigation, farming, industry, and ecotourism across the Basin.

They provided a range of views highlighting the diversity in opinions regarding Basin Plan implementation.

What has worked well?

The Peak groups did not show consensus on what had worked well in Basin Plan implementation. Three of the Peak groups highlighted on-ground regional community engagement and on-farm water efficiency projects (which aim to optimise water use within agricultural operations and provide water savings for the environment) as aspects that have worked well.

Environmentally focused Peak groups raised additional positive aspects. They praised the availability of the MDBA staff in regional areas, the Commonwealth Environmental Water Holder (CEWH) being transparent and effective in delivering water for the environment, and the role of the Inspector-General of Water Compliance (the Inspector-General) in increasing accountability and oversight in the Basin. Increased transparency through regular reporting, the production of 'road maps' and 6 monthly 'report cards', and forums like Peak group briefings were also discussed as working well.

Some environmentally focused Peak groups individually identified Environmental Water Advisory Groups (EWAGs) input and guidance on the use of environmental water for beneficial outcomes as a positive, alongside complementary measures such as the opening up of fish passage, ameliorating cold water pollution, and European Carp control in The Living Murray program. Some industry-focused groups individually mentioned increased engagement with the tourism industry as working well.

What hasn't worked well?

Peak groups pointed to numerous aspects that had not worked well in the Basin Plan's implementation. Those with interests in irrigation and NRM most frequently raised the negative effects of water recovery on Basin communities. They also raised sustainable diversion limits (SDLs) which were perceived to not be based on the best available science. Future declines in environmental watering targets and a reduction in the volumes of water to be returned from irrigators was also raised by environmental Peak

groups. Peak groups with an interest in NRM also suggest that the Basin Plan has not been delivered in full, resulting in a lack of environmental water.

Peak groups representing a variety of views raised a lack of transparency on SDL determinations and other decision-making processes. They felt the Plan was not reducing over-allocation of water and failed to deliver an environmentally sustainable level of take.

Governance, legislation, and methods of water recovery were the main themes of any additional aspects thought to be not working well. Government consultation and engagement is not being seen to include all voices by national industry-representing Peak groups, in contrast to some opinions expressing that engagement is working well. One industry-focused group called out that they feel that tourism has not had the same equality in consideration in the way water is managed in the Basin compared to other sectors. Government accountability for the implementation of various measures, delayed efficiency measure programs, and the introduction of legislation is also discussed as not working well.

Regarding legislation and water licences, the non-uniform implementation of water resource plans (WRPs) is viewed to be not working well by environmental Peak groups, raising the lack of delivery of some NSW WRPs. Additionally, states being able to present a list of their own instruments for their own WRPs and a lack of recognition of drought sequences in the WRPs themselves were areas of concern for some Peak groups. A lack of penalties for actions such as overuse of water, non-compliance with SDLs, failure to meet sustainable diversion limit adjustment mechanism (SDLAM) project deadlines, or deliver environmental outcomes is also found to be not working well for the Basin Plan. The implementation of new floodplain harvesting licenses with increased volume in NSW is mentioned by NRM-focused Peak groups as not working well.

Some Peak groups think water recovery is not working well in the Basin Plan. Constraints on environmental flows are mentioned by a variety of Peak groups, with constraints being thought to be too strict and detrimental to the environmental conditions in the Basin. Efficiency projects and buy-backs being used as a method for water recovery are also discussed as not working well. This is in contrast to some other Peak groups expressing that efficiency projects were working well. Some Peak groups reference algal blooms as being detrimental to irrigators and their livelihoods, and some other Peaks reference that it is important to have a conversation around the benefits of increasing high water levels and the frequency of river rising events to close the gap between the natural state and the current state.

Did anything unexpected happen?

There is less agreement across Peak groups for what was unexpected from the Basin Plan implementation. Multiple environmental representative Peak groups discussed concerns that new and increased volumes of floodplain harvesting licenses in NSW have the potential to remove further water for the environment. They also raised the 1500 gigalitre (GL) cap on buybacks being thought to prevent sellers from offering their water for purchase and recovery for environmental uses. A lack of progress in achieving the 450 GL of additional water for the environment was unexpected. An increase in water intensive industries such as the almond industry, requiring more water to be delivered further downstream was also unexpected.

Industry and irrigation Peak groups individually discussed how unexpected the 2022 floods and COVID-19 pandemic was, and the impact they had on SDLAM projects, resulting in delays. The perceived government focus on water volumes to the environment rather than achieving environmental outcomes was unexpected by these Peak groups.

Other topics discussed as unexpected by individual environmental Peak groups include the messaging about the 450 GL target being politicised and being a major point of contention and delay in the Basin Plan. The 100,000-tonne sand slug which migrated into the Barmah Choke and exacerbating delivery constraints was also unexpected. Separately, several mass fish death events were discussed as unexpected.

What can be done better in the Basin?

Peak groups were able to provide the MDBA with a wide variety of ways that the Basin Plan's implementation could be improved. Some of the Peak groups that represent industry, NRM and irrigators suggested there should be an increased focus on achieving environmental outcomes, rather than the volume of water allocated for environmental use. This was discussed as being beneficial for both the environment (to improve sites such as Barmah–Millewa Forest and Lower Lakes), and the communities that rely on riverine water for their livelihoods such as irrigators. Other Peak groups, especially some natural resource focused groups, highlighted that they felt the Basin Plan should be delivered in full, with the original target volume to be returned to the environment, alongside addressing over-allocation of water within the Basin.

Various Peak groups called for increased transparency regarding water trading. They suggest transparency could be improved via reporting being made public the moment the trade is made, reporting of water recovery volumes against targets, auditing and accounting of water recovery for the environment, and reporting on SDLAM project decision-making and accounting. They also wanted greater transparency on high river events and their benefits for ecological values and biodiversity, and decision-making processes from the various regulatory bodies involved in the legislation affecting the Basin.

There was a strong theme of improvement for genuine engagement and communication with the Peak groups and communities. This includes increasing First Nations involvement in Basin consultations, for example ensuring First Nations are at the centre of water management and have influence and rights over water. Building social licence in the community through genuine engagement and consultation was also raised as an area for improvement. Some Peak groups requested better messaging to the community on the benefits of ecological values and biodiversity in the Basin. Increased partnerships between government, local council, community, and industry to solve the problems faced across the Basin are discussed.

Water limits and allocations was an area environmentally focused groups felt could be improved. They highlighted that improvements could be made through the SDL modelling accounting for climate change, increased penalties for overuse of water allocations, and addressing the over-allocation of water rights. The new and increased volumes of floodplain harvesting licences in NSW were also areas of concern.

Legislative improvements were discussed by Peak groups representing a broad range of interests, including the Basin Plan and WRPs. Ensuring climate change is considered in legislation, specifically the risk that the Basin will have less water to utilise in the future was the main concern. The delay in accreditation of some WRPs was an area for improvement.

Some other ways that Peak groups felt the Basin Plan can be improved include increased funding for measures such as water efficiency projects, community adaptation, and the acceleration of the delivery of complementary measures. Increased funding for Ramsar wetlands to protect these vital ecosystems as well as complementary measures applied Basin wide (i.e. opening up fish passages, ameliorating cold water pollution and European Carp control) showcasing more holistic approaches were also discussed as methods to improve the Basin Plan.

Peak Groups' Response Summaries

Australian Grape & Wine

Australian Grape & Wine is a national association of winegrape growers and wine producers that aims to create an environment that enables wine businesses in Australia to be profitable and sustainable by developing and implementing policy in partnership with the Australian Government. Representing over 6,000 growers and 2,100 winemakers, it is the Peak group in the field.

The organisation did not supply a full direct submission to the MDBA answering each question, however they did outline their key concerns in an email while agreeing with Cotton Australia's submission to the MDBA, outlined in this report on page 8.

The key issues raised by the Australian Grape & Wine in their email to the MDBA raised several issues that were not working well in the Basin Plan implementation. The Peak group does not agree with the Basin Plan's focus on water volumes outcomes. The Peak group would rather environmental outcomes are optimised in a way that minimised social and economic harm in communities.

They raised the difficulty in gaining approvals for projects aimed at improving efficiency and evaporative loss and the frustrations about different trading rules between states and perceptions that it can lead to inequities and/or irrigators taking advantage of carryover rules.

Cotton Australia

Cotton Australia represents up to 1,500 Australian cotton growers across the country as the Peak group for the industry. The body aims to support the industry to be competitive, sustainable, and valued. Formed in 2008, the organisation is a merger of two bodies the Australian Cotton Growers Research Association (ACGRA) and the Australian Cotton Foundation (ACF) giving Cotton Australia over 50 years of experience.

Cotton Australia has referred the MDBA to previous submissions, as well as the National Farmers Federation, National Irrigators Council, New South Wales Irrigators Council and Queensland Farmers Federation submissions, as Cotton Australia is an active member of these groups.

What has worked well?

In a submission from 2020 on the *Multi-Jurisdictional Management and Execution of the Murray–Darling Basin Plan Inquiry,* Cotton Australia endorsed the overall work of the MDBA in determining SDLs and assuring their compliance while having oversight of water management across the Basin. They highlighted the high level of transparency in regularly reporting on the water recovery volumes transferred to the CEWH.

In a submission from 2019 on the *Murray–Darling Basin Commission of Inquiry Bill 2019*, Cotton Australia stated while they did not believe the Basin Plan or its implementation is perfect, it does recognise that it is a world leading initiative, and it should be recognised as such. Cotton Australia believes that the focus should now be on finalising the implementation of the Basin Plan and shifting the focus from debating the Plan, to working on ways to leverage greater environmental outcomes out of the available environmental water pool.

What hasn't worked well?

In Cotton Australia's view the Basin Plan is too focused on water volumes, rather than optimising environmental outcomes, in a manner that minimised social and economic harm. Furthermore, the rigid rules around qualifying for the SDLAM (sustainable diversion limit adjustment mechanism) projects are not seen to be assisting this issue, and more could have been achieved for the Basin environment if complementary measures and a holistic approach were invested in across the Basin. Basin Plan government consultation was also identified by Cotton Australia as being a failure in the past.

In a submission from 2020, in response to the *Multi-Jurisdictional Management and Execution of the Murray–Darling Basin Plan Inquiry,* Cotton Australia raised concerns that irrigation reliant communities have suffered under the Basin Plan, exacerbated by the droughts experienced. They believe communities have experienced major social, economic, and environmental change under the Basin Plan in a short period of time and this has greatly affected these communities, again exacerbated by drought. They describe insufficient transparency around viability and delivery of the SDLAM projects in the Basin as one of these. These views were echoed in a recent 2023 submission by Cotton Australia to the *Water Amendment (Restoring Our Rivers) Bill 2023* (Cth), alongside the sentiment that 'just adding water' to the system does not assist in improving environmental conditions. Additionally, reliance on hydrology, or volumes of water, to evaluate sites across the Basin rather than a holistic scoring approach using hydrology, fish, and macro-invertebrate metrics for evaluation was highlighted as not working well.

Social and economic costs of the Basin Plan are also discussed in a 2019 submission on the *Feedback on Draft Terms of Reference of the Independent Review of the Social and Economic Impacts of the Basin Plan*. Cotton Australia states the 320 GL Water Recovery target across the Northern Basin has cost 530 jobs.

The *Water Amendment (Purchase Limit Repeal) Bill 2019* (which limited water recovery at that time to 1500 GL) is discussed in a 2019 submission, Cotton Australia thinks that the Bill represents a breach in bi-partisanship to the Basin Plan. In this submission, the body believes that environmental water should be acquired through efficiency measures rather than purchase of entitlements. In a submission from 2019 on the *Murray–Darling Basin Commission of Inquiry Bill 2019* they feel there has been an overabundance of governmental and/or external studies/inquiries/reviews, with 37 in the last decade. In a 2024 submission to a *Draft Framework for Delivering the 450 GL of Additional Environmental Water*, Cotton Australia highlights concerns against the rules-based changes, as well as over-recovery and automatic transfer of this over-recovered water to the 450 GL target.

Did anything unexpected happen?

Nothing unexpected is discussed by Cotton Australia explicitly.

What can be done better in the Basin?

Complementary measures for increasing environmental outcomes are discussed in a submission from 2019 on the *Murray–Darling Basin Commission of Inquiry Bill 2019,* Cotton Australia highlights that complementary measures (i.e. opening up fish passage, ameliorating cold water pollution and European Carp control) should be invested in across the Basin, with more holistic approaches needed for water management. Further to this, in a submission from 2020 on the *Multi-Jurisdictional Management and Execution of the Murray–Darling Basin Plan Inquiry,* several recommendations are made including that all water trades should be reported publicly the moment the trade is made, and that very clear, well thought-out catchment plans that are well communicated to the community are required. In a 2019 submission on the *Inquiry into the Water Amendment (Purchase Limit Repeal) Bill 2019* the body believes that environmental water should be acquired through efficiency measures rather than purchase of entitlements.

Ecotourism Australia

Ecotourism Australia was established in 1991 as a not-for-profit organisation that promotes and supports the ecotourism industry across the country. With a tourism value of $11 Billion per year within the Basin, many operators operate with a sustainable tourism ethos having an 'ECO Certified business', as provided by Ecotourism Australia, being ecologically sustainable tourism with a primary focus on experiencing natural areas that fosters environmental and cultural understanding, appreciation, and conservation. The organisation believes that ecotourism use is appropriate for the Basin but cannot expand or prosper if the Basin is not effectively managed.

Ecotourism Australia provided the MDBA with a submission directly addressing the questions (refer appendix for the full submission).

What has worked well?

Ecotourism Australia highlighted several ways they think the Basin Plan implementation has worked well. Tourism focused engagement activities, such as recent roundtables that brought together key environment and tourism Basin representatives were well received, as was on-ground engagement from the MDBA. Recent recognition of the Renmark Irrigation Trust for their role in water management and good stewardship behaviours was appreciated. Ecotourism Australia acknowledged commitment to the Basin Plan from Minister Plibersek and the Department of Climate Change, Energy, the Environment and Water.

What hasn't worked well?

Ecotourism Australia seeks more opportunities for the tourism industry and tourism operators to be a part of consultation activities and direct engagement. Tourism has not been considered in water management equally when compared to other sectors in the view of the organisation. Ecotourism Australia reflects in their submission that environmental goals have not always been a focus of the Basin Plan, and environmental goals lack clear articulation. Ecotourism Australia values the benefits of increasing frequency of high river flows and floods to close the gap between current and natural state for the health of the environment.

Did anything unexpected happen?

The benefits the 2022 floods delivered were unexpected. The reaction by some sectors, which are not detailed by the organisation, whereby they felt the flood negated the need for the Basin Plan was unexpected. This view is not held by Ecotourism Australia, rather they felt that the flood naturally achieved the benefits they saw the Basin Plan trying to achieve.

What can be done better in the Basin?

Ecotourism Australia seeks improved engagement, transparency, industry support, and ecotourism principles support through Basin Plan implementation. These improvements come from Basin tourism operator feedback.

Ecotourism Australia believes that engagement with the tourism industry on Basin Plan implementation should be expanded, and engagement focus should be on local tourism operators. Greater

communication and transparency is sought on high river events and their benefits for ecological values and biodiversity. Further information is sought on environmental targets and their achievement. Ecotourism Australia also seeks simplified narratives, and consideration to the sensitivity of some of the messaging on the issues in the Basin to tourist operators and tourists, with the view that unbalanced information can lead to a reduction in tourism because of perceptions the river and surrounding basin are not viable for visitors.

Supporting the tourism industry and advocating for ecotourism activities is also an area highlighted by the organisation as needing improvement, given positive environmental, socio-economic and cultural impact. With reference to the benefits and appropriateness of ecotourism activities, the organisation encourages work with local governments to support local tourism operators. Alongside this, they recommend the convening of a dedicated Tourism Reference Group for consultation activities. A series of ecotourism measures are suggested including measures to incentivise tourism operators to achieve global best practice sustainability measures through recognised certification and creating a 'River Guardian' program recognising good operator stewardship (similar to the Great Barrier Reef 'Reef Guardians' program) for Basin regions.

Healthy Rivers Ambassador for The Basin

The Healthy Rivers Ambassador for The Basin is representing the Lifeblood Alliance who are a network of community, environmental and Indigenous groups across the MDB, formed when the Basin Plan was first introduced. The Alliance consists of groups such as the Australian Conservation Foundation, Inland Rivers Network, and the Northern Basin Aboriginal Nations.

The Healthy Rivers Ambassador for The Basin provided the MDBA a submission directly addressing the questions (refer appendix for the full submission).

What has worked well?

Regionalisation of agency staff is thought to have worked well, with the production of 'road maps' and 6 monthly 'report cards' by the MDBA highlighted. The independence provided by the office of the Inspector-General for Water Compliance is thought to have provided a critical instrument for Basin compliance, alongside the 5-yearly review process by the Productivity Commission providing useful recommendations and opportunities for community input. Some SDLAM projects as well as Living Murray projects such as complementary measures are thought to have worked well. The buy-back scheme returning water to the environment initiated under The Living Murray Program while the Basin Plan was being developed was very successful, with 500 GL acquired. The Commonwealth Environmental Water Office (CEWO) coordinated environmental flows to create spring pulse flows through multiple river valleys and CEWO accounting systems for volumes which cannot be metered. In regard to communication and engagement, the Healthy Rivers Ambassador reflected on the increase in transparency in reporting, the usefulness of the Peak groups forums, and Regional Community Forums.

What hasn't worked well?

The Ambassador highlighted several ways they believe the Basin Plan implementation is not working well. In their view the Basin Plan is not legislated properly, with no penalties for failure to meet deadlines. It is also their view that the Basin Plan has failed to reduce over-allocation of water and deliver an environmentally sustainable level of take.

The Ambassador is concerned about the impacts of climate change not being taken into account in future water availability in the Basin Plan. SDLAM projects are seen to be not delivering adequate water recovery, constraints projects have also not been delivered and should have managed separately from SDLAM and the lack of delivery of some NSW WRPs is seen to be a failure. Efficiency projects are discussed as not having been audited correctly, with large associated costs. The Ambassador reflects that evaluation and accountability has not worked, raising the cancellation of the Sustainable River Audits, as well as an initial lack of compliance monitoring. The Ambassador raises concern on drafting of the Basin Plan behind 'closed doors' with poor communication and engagement leading to misinformation and community resistance as an issue. The Ambassador highlights misinformation about environmental flows, and the volumes of reports hindering information sharing as a negative.

Did anything unexpected happen?

The Ambassador discusses several negative unexpected things in relation to the Basin Plan implementation. These include delays in water recovery and plan delivery which has been detrimental. Implementation of the ESLT (environmentally sustainable level of take) is thought to be a failure as well.

The 1500 GL cap on buybacks is thought to have prevented sellers from assigning their water to environmental uses. The floodplain harvesting licences recently issued in NSW are highlighted as having the potential to remove further water for the environment. No overbank flows arriving in the lower reaches despite high rainfall flooding conditions upstream was unexpected by the Ambassador. The sand-slug in the Barmah Choke was unexpected and negative. Some aspects of communication and engagement were thought to be unexpected, including the politicisation of the 450 GL target, and a tug-of-war between environmental and industry on issues like almond production. The Ambassador raised that the the 450 GL will benefit connectivity and all locations along the river valleys as it flows through, not only South Australia. A positive unexpected aspect was the use of remote video-conferencing technology allowing the voices of underfunded community groups to be heard on Basin issues.

What can be done better in the Basin?

The Ambassador provides broad improvement suggestions in relation to the Basin Plan implementation. They seek over-allocation to be addressed within the extended timeframes of Basin Plan, transparent accounts of water recovered and their auditing, the effects of climate change to be addressed, stronger penalties for failure to deliver outcomes, and long-term targets in water reforms. They seek greater transparency of accounting in SDLAM and a review of the importance of ecological equivalence processes. They believe there must be a full, transparent account of all water recovered and environmental benefits claimed under Basin Plan. The purchasing of water is thought to be the most cost-effective way to recover water by the Ambassador, however they stress the importance of carefully targeted community support to mitigate the potential negative social effects of purchasing water and ensuring communities have long-term resilience. They believe that volumes should be returned within the timescale of the Basin Plan, alongside the removal of constraints to deliver water beyond in-channel, connected sites.

The Ambassador highlighted that operating and delivery rules can be improved, to better manage small to medium floods to deliver overbank flows and have end of system flows for each sub-catchment. They seek a review of the current MDBA operating rules, the development of controls of storage and release to reduce flood risks. They propose an investigation of options to manage controlled, short, overbank flows to direct environmental water to key targets on floodplains. They seek a review of operating rules in the Menindee Lakes to require minimum low flows from the upper catchment through to the Lower Darling, as well as a minimum Menindee Lakes reserve of 400 ML. Community engagement is also an area for improvement, particularly in reporting and positive publicity of the benefits of environmental water to the wider community.

Inland Rivers Network

The Inland Rivers Network (the Network) is a not-for-profit coalition of environmental groups and individuals that advocates for healthy rivers, wetlands, and groundwater in the MDB, and has done so since 1991. The network is concerned with restoring biodiversity, protecting natural flow regimes and threatened species, supporting Indigenous knowledge, and advocating for sustainable management practices. They advocate for a fair share of water for biodiversity, Indigenous uses, downstream communities, and the return of inland river systems to a more natural variability of flows.

The Network provided the MDBA with a submission (refer appendix for the full submission) addressing each of the questions directly.

What has worked well?

The Network thinks that the Basin Plan's recognition of connectivity between the Northern and Southern Basin, lateral connectivity between rivers and floodplain, improved use of held environmental water (HEW); water held in a water access licence for environmental purposes, coordinating flows across multiple valleys, increased transparency and cooperation between jurisdictions, the establishment of the independent role of the Inspector-General for Water Compliance in the Basin, and the prospect of financial penalties to ensure compliance in the implementation of the Basin Plan are all working well.

What hasn't worked well?

The Network's view on what had not worked well in the Basin Plan implementation is that the SDLs and ESLT are not based on the best available science, and the recovery of water could be improved. The Network also raises a view that Site-Specific Flow Indicator (SFI) sites used to inform setting ESLT and SDLs are missing key catchments. Furthermore, some shared reductions to reach SDLs are credited to different catchments than originally planned, and these decisions are not regarded by the Network to be based on science or availability of flows. In the Network's view, the adoption of the SDLAM process is thought to be flawed, with the SDLAM package not being completed before the ecological equivalence testing. The Network also thinks that there is a lack of progress in achieving the essential 450 GL of additional water for environment, with restrictive socio-economic criteria placed on project assessment and a perceived lack of evaluation and transparency of water savings and water recovery. The Northern Basin Review, conducted by the MDBA from 2012 to 2016 that resulted in a 70 GL reduction in water recovery through measures such as the Northern Basin Toolkit, was not thought by the Network to be scientific or to evaluate social, cultural, and environmental values. In the Network's view this has compounded ecological decline and reduced connectivity with the Lower Darling and Lower Murray.

Some additional ways that the Network thinks the Basin Plan implementation is not working well include: Environmental Water Requirements (EWRs) not being used to guide WRPs and environmental water delivery and that HEW is not adequate to achieve outcomes in the Darling (Baaka) without changes to flow management to improve connectivity, a failure to deliver some WRPs in NSW impacting on SDL compliance, state governments' implementation delays of the constraints management program, new licences for floodplain harvesting recently issued in NSW viewed by the Network as locking in unsustainable extraction, and a failure to improve Indigenous access to water, cultural water connectivity and recognition in WRPs.

Did anything unexpected happen?

Several things are raised by the Network as being unexpected. They include the 1500 GL cap on buybacks, and the floodplain harvesting assessment process for new licences not seen to include any increased environmental protection. In the Network's view, these are thought to have increased water take and impacted on ecological health, fish populations and connectivity with the Darling (Baaka) and Southern Basin, but this impact has not been assessed. The Network also thinks that the assessment of 'over-recovery' of water for environmental outcomes in the Macquarie and Gwydir Valleys is incorrect, with this assessment unexpected by the Network. They think that there has been a continuation of river operations that constrain environmental outcomes, including the rapid development of permanent plantings in Southern Basin and unregulated growth of almond production, with no consideration of water supply constraints and impacts being conflated by some with environmental water delivery. The Network raises that WRPs lack a recognition of recent drought sequences as unexpected and lastly, the Network thinks that the MDBA has not demonstrated independence from political influence in decision-making.

What can be done better in the Basin?

The Network highlights several ways that they think implementation of the Basin Plan could be done better. They seek increased transparency in auditing and accounting of water recovery, and the modelling processes used in Basin management. The Network also thinks that the MDBA agreement for Menindee Lakes operation should be reviewed, operational rules for all storages need to be more adaptive, and stronger penalties for failure to meet deadlines need to be enforced. The Network suggests accredited WRPs need a requirement to connect downstream water sources, allow a consistent approach to the facilitation of water connectivity and include rules to conserve a drought contingency water supply in all Basin storages. Finally, genuine engagement with Indigenous groups is sought to improve inclusive outcomes and the understanding of their needs.

Murray–Darling Association (MDA)

The MDA is the peak group for local government across the Basin, they provide representation for these local governments in the management of Basin resources. They advocate on the behalf of Basin communities and look to facilitate two-way information sharing and debate to achieve solutions between communities and governments. They have the largest membership base across the Basin.

The MDA provided a submission directly addressing the questions.

What has worked well?

The MDA highlights community engagement, MDBA offices in the regions, and on and off farm water efficiency projects as three aspects related to Basin Plan implementation that are positives. They feel MDBA staff are accessible to rural and regional communities and engagement sessions in communities are open and transparent. On and off farm water efficiency projects were seen by the MDA to have been received favourably in the past, with future implementation thought to be important in assisting Local Government Areas and their communities impacted by Water Buybacks and by water accessibility.

What hasn't worked well?

The maintenance of the Triple Bottom Line approach, and neutrality test to the Basin Plan to ensure a balance of social, economic, and environmental needs has not worked well in the view of the MDA and has led to the imbalance of social, economic, and environmental objectives in the Basin. The MDA thinks that the environmental needs of the Basin has overshadowed the social and economic factors, leading to impacts on communities in the Basin. They emphasised that the socio-economic neutrality test should continue to be applied.

Did anything unexpected happen?

The MDA raised the COVID-19 impact and 2022 – 2023 Floods as unexpected. Both led to delays in SDLAM projects delaying benefits to Basin communities. The *Water Amendment (Restoring our Rivers) Act 2023* (Cth) providing additional time to complete State-based SDLAM projects was unexpected.

What can be done better in the Basin?

The MDA raises improvements in communication, reporting and environmental protection measures. The MDA advocates for greater inclusion of local councils in Basin Plan dialogue and planning, as representing a broad cross-section of local communities rather than sectional interests, to service their views on how to best protect their local economies, communities, and environments. Other suggestions include the releasing of funds quarantined for River Murray licence holders for any user of River Murray water to improve local government water security. SDLAM reporting is highlighted as underdone, with quarterly basis reporting requested for SDLAM projects to manage certification, deadlines, and public information.

Ramsar wetlands are highlighted by the MDA as needing more protection and funding to protect the ecosystems. The MDA stresses the importance of these wetlands for carbon sequestering and water bird habitats. Riverbank slumping and undercutting is another concern for the MDA, with the impacts of these as well as their management planning and amelioration funds needing quantification from the

MDBA to better understand their impacts and better manage support for communities affected. The MDA felt there is little governmental responsibility being taken for the issues of riverbank slumping and undercutting. Levee bank management, assessment, maintenance, and improvement were discussed as needing improvement, with a review suggested to ensure both government and private levees are best positioned to protect towns and agricultural land.

The MDA also suggested the release of funds to non-riparian local governments to help reduce their reliance on riverine water to reduce the strain on the Basin's supplies. The MDA raises that off-farm efficiency projects could help this but are only accessible by local governments with a water licence. The MDA discussed that the next iteration of the Basin Plan should address meeting water demands with less water. They highlight the impact climate change will have on the Basin and water inflows, and reducing this impact will require cross governmental support and assistance for communities to adjust to a future with less water.

Murray–Darling Conservation Alliance

The Murray–Darling Conservation Alliance (the Alliance) is a major body of representation for conservation groups across the Basin, and consists of Environment Victoria, Nature Conservation Council of NSW, Conservation Council South Australia and Queensland Conservation Council. This large body has a five-point plan for the Basin, including advocating for water for rivers, rhythms of river flows, Traditional Owners' rights, regional communities, and water markets. Also represented and providing a submission in this report is the Nature Conservation Council of NSW. The Alliance is relatively new, commencing on the 10th anniversary of the Plan in 2022.

The Alliance provided the MDBA with a previous submission to the *Water Amendment (Restoring our Rivers) Bill 2023* (Cth) senate inquiry to address the questions in this report, alongside a new submission to the MDBA covering the questions not addressed in the previous submission (refer appendix for the full submissions).

What has worked well?

The Water Act, Basin Plan, and the management of rivers by the MDBA were all seen as a positive by the Alliance, as these have progressed cooperative federalism and helped to shift water management beyond narrow interests however they outline in the 'What hasn't worked well' section that implementation of the Basin Plan has only delivered two-thirds of the water to be recovered and slow progress on constraints relaxation has made it difficult to release the full environmental benefits set out in the Basin Plan. Other positives the Alliance highlight include the EWAGs, which they believe has been a good way to plan for the delivery of environmental water, and state and Commonwealth owned water being used as 'one bucket' has worked well in some catchments, for example the Macquarie catchment. They were positive about the MDBA Peak groups meetings which they think are useful and appropriate.

What hasn't worked well?

The Alliance details several ways they think the Basin Plan implementation has not worked well. They believe the Basin Plan has a flawed determination of the water recovery target, stating that the MDBA 'failed to act on the best available scientific knowledge' in regard to the target. The Alliance also thinks that there has been a 'gradual unravelling' of the delivery target with a 'step-down effect,' and a steady reduction in the volume of water to be returned from irrigators to the environment. They believe that the original vision of the Plan has been diminished through the lower recovery target, neglecting to account for the consequences of climate change and then undermined by a decade of stalled implementation highlighted by the fact the Basin Plan was set for full delivery by 30 June 2024. The Alliance raises negative ecological consequences of delays to the implementation of the Basin Plan.

Did anything unexpected happen?

Several unexpected things are discussed by the Alliance in their submission. Firstly, they find that while the licencing of floodplain harvesting was not unexpected, the volumes that were licenced alongside the carry-over rules were unexpected. They highlight that large volumes of water were extracted, and the BDL (Baseline Diversion Limit) and SDLs in catchments were increased outside of parliamentary processes. The Alliance observes that the SDL can be changed at any time without consultation or Parliamentary scrutiny, increasing take and undermining the security of water recovered for the

environment. Alongside this concern, the scale of permanent agriculture in the lower Murray such as almond plantings is also thought to be unexpected by the Alliance. They believe that the scale of this shift stretches water availability and deliverability, especially in future drier years. The scale of fish kills on the Lower Darling (Baaka) and declines of native species are also discussed as unexpected, with the Alliance highlighting the devastation of these events for the environment. The Alliance also thinks the government and MDBA has not made the case for the Basin Plan and for efficient and effective water recovery methods, such as open tender purchases and this was unexpected. They believe that the public's perception of these methods is not aligned with the evidence base and credible research sources. They see that the public is misinformed as to water recovery for the environment, with a vacuum of information created with little government support. Finally, the Alliance discussed that they see a disparity between expected flows, and observed flows, referencing that 20% of water expected was not received. While this is unexpected, they feel that drier conditions, higher conveyance requirement, and perceived inadequate rules to protect environmental flows are contributing to this discrepancy.

What can be done better in the Basin?

The Alliance provides 5 key mechanisms for additional accountability measures for the Basin Plan implementation as follows:

1. Return water rights to Traditional Owners, enabling each Nation to exercise their custodial responsibilities to care for the river system and putting First Nations at the centre of water management with increased influence and rights over water.
2. Ensure timely and reliable water recovery, recognising the slow progress acquiring water over the past decade and the opaque systems currently used to track progress. The Alliance notes that some off-farm projects take more than 14 years to complete, with timely recovery requiring: assurance mechanisms to keep water recovery on track; improved accounting to ensure water is reliable; and an updated strategy to meet environmental needs and avoid impediments.
3. Realise the benefits of water recovered, relaxing constraints on water delivery that keep water from supporting wetlands.
4. Phase out failed experiments, shelving controversial offset programs [such as SDLAM] which claim to substitute flowing water.
5. Fund community adaptation, addressing economic issues thoughtfully and directly.

In relation to the above, the Alliance recommended various amendments to *the Water Act*, independent auditing of SDLAM, SDL and related conversion factors, an inquiry into impacts of water recovery compared to other drivers of social and economic change, alongside the consideration of challenges, new independent commissions, and inquiries amongst 26 recommendations they put forward to improve the legislation in their submission to the *Water Amendment (Restoring our Rivers) Bill 2023* (Cth) Senate inquiry.

National Irrigators' Council (NIC)

The National Irrigators' Council (NIC) is the Peak body representing irrigators in Australia, supporting 31 member organisations across more regions than The Basin. As the voice of irrigated agriculture, the NIC aims to provide long-term security and supporting of interests of the members and industries producing food and fibre.

The NIC provided the MDBA with a submission (refer appendix for the full submission) addressing each of the questions, with information drawn from a short survey of their members, with the aim to provide new insights for the MDBA.

What has worked well?

In discussion of what has worked well in relation to the Basin Plan implementation, the NIC drew attention to key performance indicators (KPIs) for salinity in the Lower Lakes as well as compliance with SDLs. They observe that it could be argued that the Basin Plan has addressed the concerns of over-use which led to its development in the first place, however, this has not contributed to building trust and confidence in water management. They also state that the Basin Plan has resulted in additional flows to the environment, which in turn has resulted in improved environmental conditions. Participants from an NIC member survey agreed that on-farm efficiency programs, when combined with other investments, were working well, allowing farmers to adapt to less water and providing multi-level benefits.

What hasn't worked well?

Members of the NIC were asked in a survey to select 3 elements of the Basin Plan that concerned them the most. The three highest rated responses were the shortfall in total recovery volume targets for the Basin (such as SDLAM and bridging the gap and the 450 GL/y of additional environmental water), the use of buybacks as a key method of water recovery, and how to achieve balance for irrigation-water dependent communities. The NIC thinks that government accountability is not working well, with failure in Basin Plan implementation driving the recent *Restoring our Rivers Bill 2023*.

The NIC also thinks that there is limited adaptability found in the Plan, with a singular focus on water recovery targets rather than environmental outcomes. By way of an example of the inflexibility the NIC raises the 450 GL/yr target of additional environmental water, with less interest seen to be for complementary measures. Transparency in decision-making is also a major topic of concern for the NIC, who thinks that consultation and engagement with communities has not been inclusive enough, has not shown transparency in how engagement feedback informs decisions and a move to online consultation that is not two-way and is not inclusive. There is believed to have been a significant cost to community resilience and balance for irrigation water-dependent communities, with a lack of trust and confidence in water management found in these communities.

Did anything unexpected happen?

Community members celebrating the environmental benefits from the Basin Plan and showcasing their acceptance and goodwill were regarded as unexpected. The *Restoring our Rivers Bill 2023* which enabled changes to the Basin Plan while focussing on volumes of water recovery over outcomes has

increased uncertainty and risk of further water recovery from farmers. This was unexpected and thought to be undermining the goodwill in the community.

The exclusion of complementary measures and rigidness of the Basin Plan in focussing on volumes is also discussed as unexpected by NIC. The focus on water recovered rather than achieving environmental outcomes has been unexpected, the NIC provide the example of the focus on the 450 GL recovery, rather than the core plan priorities of SDLs and the science indicating a range of measures required to restore rivers.

What can be done better in the Basin?

The NIC provides suggested improvements drawn from their member survey and past submissions. These points have been summarised by the NIC as follows:

- A focus on outcomes for social, economic, and environmental factors rather than water alone.
- Recognition and investment in complementary measures.
- Evidence that community and regional experiences matter and how local knowledge is used by decision makers.
- Ground truthing of science.
- Flexibility in implementation and adaptation, without undermining community and industry confidence.
- Optimisation of the environmental water already owned – efficient and effective use of all water must occur.
- Facts, trust, and transparency of decision-making.
- Engagement of all stakeholders without prioritisation.
- More listening, less talking.

Nature Conservation Council of NSW

Nature Conservation Council of NSW, advocates and campaigns as the voice for nature protection for 65 years. The Peak group operates conservation initiatives for threatened species, bushfire projects, community events as well as many other projects in NSW.

The Council provided the MDBA with a submission addressing each question directly.

What has worked well?

The Council felt the CEWH was effective in delivering water, and that combining NSW managed Environmental Watering Allowance with NSW and Commonwealth Held Environmental Water and managing as one 'bucket' works well in the catchments this applies to. EWAGs are thought to be effective in providing input on delivering water for the environment through community representation. The Council provides an example of the Macquarie EWAG as an illustration of the value of cumulative local knowledge through EWAGs. The Council highlights the critical importance of the Peak group meetings, *the Water Act*, the Basin Plan, and cross borders river management regulations which prioritise the protection of the environment.

What hasn't worked well?

The Council highlighted many ways that the objectives in the Water Act are not aligned with the objectives in the Basin Plan. The Council notes that the SDLAM objectives in the Basin Plan do not align with the objectives of *the Water Act.* They believe that water market trading rules in the Basin Plan should limit trade when necessary to avoid environmental and cultural impacts, as *the Water Act* objectives state. To give effect to the water quality objectives and outcomes in the Basin Plan, better policy levers are seen to be required, especially in the northern Basin and Darling (Baaka) River.

The Council highlights and summarises the following aspects that they think are not working well:

- WRPs are thought to be not uniform, with States being able to present a list of their own existing instruments.
- It is thought the Basin is not being managed as a connected whole with WRPs not being required to interact with adjacent, connected surface water and groundwater plan areas.
- Planned environmental water (PEW) is seen as not clearly defined across states with PEW not defined in Victoria and inconsistently defined in NSW, making it difficult to quantify and protect.
- They think there is also a lack of transparency, consistency and clarity in policies, terms, and concepts across the Basin, acting as a barrier to community engagement.
- There is a lack of First Nations consultation in at least some WRP areas.
- First Nations objectives and provisions in *the Water Act* were until 2023 very limited, while the Act still does not reference the United Nations Declaration of the Rights of Indigenous People (UNDRIP).
- Relaxation of constraints on environmental water use are seen to have stalled, need to be coordinated across state borders on the Murray and are not yet allowing wetlands and low-lying floodplains to connect to the river.

- They think that publicly owned environmental water should be able to be released at sufficient flow rates and durations above existing constraints, to provide critical regular small over-bank flows.
- SDLAM projects are not thought to be based on the best available scientific data and only target a small proportion of wetlands.

Did anything unexpected happen?

The volumes of licenced water, carry over rules and rainfall runoff exemptions in the licencing of floodplain harvesting in NSW was unexpected. The Council discusses the growth in take by 142% despite caps in place since 1994 – 95 to support this statement, mentioning these various new floodplain licences as with unchecked growth of unregulated floodplain harvesting extraction.

What can be done better in the Basin?

The Council outlines and summarises recommendations for Basin Plan implementation improvement as follows:

- PEW in NSW should be consistently defined and adequately protected.
- Extraction limits in surface water sharing plans must be updated to ensure they are informed by climate change modelling.
- There must be drought reserve 'floors' in public dams, and available water determinations must not be made on predicted inflows, only on water that is physically in the dams.
- There must be mandated priority flow targets in regulated water sharing plans to ensure connectivity is prioritised, adequate downstream water security and quality, protection of Ramsar wetlands, and First Nations right to access water.
- The rules that manage floodplain harvesting and supplementary access must be bought in line with the environmental watering requirements of the catchments.
- River models used by the states should be available for to the Commonwealth to review and adjusted annually with observed data.
- Modelling of diversion limits and water determinations in NSW should have greater transparency in the calculations.

NRM Regions Queensland

NRM Regions Queensland is the representative body for NRM, for the protection and improvement of natural assets, in Queensland, representing 12 NRM bodies across the State. Formed 20 years ago, NRM Regions Queensland aims to amplify the voices of the NRM bodies through mentoring, leadership and advocation.

The Peak group provided a previous submission to the *Murray–Darling Basin Plan: Implementation review 2023* (refer appendix for the full submission) to the MDBA to address these questions.

What has worked well?

NRM Regions Queensland commend water for the environment being used to improve the ecosystem health in the Basin and funding being provided by state and federal government for activities to deliver complementary measures. They praise jurisdictional complementary plans that outline potential complementary projects, that are bottom-up plans describing the natural assets of a region/catchment, list threats and risks, and targets for on-ground activities that build the health and resilience of these landscapes. Some examples include the MDBA Native Fish Strategy 2003 – 2013 that shows the cumulative benefits of investing in complementary works and measures (NRM Regions Queensland believes it delivers almost twice the benefits as environmental flows alone in terms of recovering fish populations to pre-European levels). The Northern Toolkit Projects, such as the Northern Basin Riverbanks project run by Southern Queensland Landscapes is another example of a plan the NRM Regions felt was positive for the Basin.

What hasn't worked well?

NRM Regions Queensland raised concerns that water for the environment cannot alone achieve environmental objectives of the Basin Plan. They also raised concerns that the recovery of water is causing significant socio-economic costs in regional irrigation communities, whereas complementary works and measures can achieve environmental outcomes without these costs. The lack of specific funding arrangements to accelerate the delivery of complementary measures was a further concern. NRM Regions Queensland believed sustained opposition from regional communities will continue to challenge Basin Plan implementation.

Did anything unexpected happen?

The Peak group did not discuss anything unexpected in their submission to the *Murray–Darling Basin Plan: Implementation review 2023*.

What can be done better in the Basin?

NRM Regions Queensland provides potential improvements to the Basin Plan focussed on complementary measures and maximising the benefits of water for the environment. They suggested restoring the connectivity between waterways and the floodplain and managing weeds, pests, and overgrazing. They supported building community support through complementary measures by involving local communities and Traditional Owners in their implementation. The organisation also highlights the importance of building 'social licence' for the long-term success of the Basin Plan. They suggest a partnership between federal and state governments, and the community, to achieve Basin

Plan objectives such as improved water quality, recreational fisheries growth, enhancing Aboriginal cultural values and protecting and restoring water dependent ecosystems.

NSW Irrigators' Council

The New South Wales Irrigators' Council is the Peak body representing irrigators and irrigation communities in NSW, with 19 member organisations across NSW representing over 12,000 water licence holders. In advocating and advising on best-practice water management, the NSW Irrigator's Council supports its farmers, as well as environmental health and sustainable resource access and highlights their commitment to sustainability.

The Council has provided a submission to the MDBA addressing each of the questions posed in this report (refer appendix for the full submission) and has also directed the MDBA to previous submissions, reports, and recommendations from the Council to prior enquiries, as linked below.

What has worked well?

The Council thinks that the water recovered to date, has achieved positive environmental outcomes, and supported the improved resilience of rivers and ecosystems. However, the council also thinks that the continued focus on water recovery volumes over complementary measures to address degradation drivers, means the benefits will continue to fall far short of the Basin Plan's objectives.

What hasn't worked well?

The Council raised that the MDBA devalues the evidence provided by industry, community, and local government as merely "perspectives", instead giving weight to information and views from academics living outside the Basin and government agencies. As evidence of this bias, they point to the MDBA's Evaluation Framework, the Advisory Committee on Social, Economic and Environmental Sciences (ACSEES) and an MDBA-commissioned report that deems academic water economic studies as the most credible. The Council raised this as an ongoing issue and does not see that this will change in the future with the 2025 evaluation.

A lack of transparency from the MDBA is also discussed, with requests to the MDBA from the NSW Irrigator's Council for tangible information and insight on how the MDBA intends to assess socio-economic impacts not being actioned. The Council therefore thinks that Basin communities, local government and industry are being kept in the dark regarding decision making and evidence for the 2025 Basin Plan Evaluation and the 2026 Basin Plan Review.

Environmental watering and a singular focus on water recovery alone are issues highlighted by the Council as not working well. The Council believe that irrigators are being held accountable for all water they divert, with less scrutiny on whether the CEWH is using its water efficiently.

The Council thinks that the Basin Plan's singular focus on water recovery has failed to deliver the catchment and Basin-scale step change in water quality, habitat quality and extent, and ecosystem functions that would be expected for the investment. The Council says so much more could have been achieved for the Basin environment, if the funds had been used to fund complementary measures across the Basin alongside strategic water recovery, and in general, if a more holistic approach to water management had been pursued.

Did anything unexpected happen?

The Council thinks that MDBA has been seen to be too focussed on water recovery, to the detriment of other measures, and this singular focus was unexpected. The Council believes that despite many reviews and recommendations, the Basin Plan has not been adaptive to the new information provided and has not implemented lessons learned to shift from water recovery volumes to complementary measures such as invasive species control, cold water mitigation, fish passageways and screening, partnerships with Irrigation Infrastructure Operators and landholders to get around constraints.

What can be done better in the Basin?

All recommendations as to how the Basin Plan implementation can be done better have already been made in the Councils view. The NSW Irrigators Council refer to their own previous submissions and reports as summarised below:

- Start with genuine, meaningful engagement with Basin stakeholders, communities and local government.
- There needs to be an integrated catchment approach, rather than a water management approach alone as discussed in a 2023 report into buybacks.
- No more buybacks to address the shortfall from the 605 GL/y offset discussed in the same 2023 report into buybacks. Equal attention should be given to addressing other threats that water delivery alone cannot ameliorate.
- Focus on delivering environmental outcomes rather than modelled water recovery targets as a way to improve ecological conditions, alongside socio-economic impacts in a 2023 submission to the *Productivity Commission Murray–Darling Basin Plan 10-Year Implementation Review.* This should include a paradigm shift towards collaborative, participatory, and co-beneficial water policy and management working together with communities and landholders. The Council's view is that this not only has significant potential to protect socio-economic outcomes and address the deeply entrenched trust-deficit, but also is now the most critical pathway for environmental outcomes too.
- The Council questions the necessity for further water recovery to bridge the 'gap' (reducing water diversions from pre-Basin Plan BDLs to SDLs) with further work required to ensure water recovery targets are based on up-to-date information as mentioned in a 2023 report into water recovery targets against SDLs.
- Environmentalists and irrigators need to work together in cooperation and collaboration, with the polarising and divisive 'environment versus irrigators' paradigm needing to shift. Water reform should not silo agriculture and the environment as mutually exclusive, as discussed in a 2022 report on how irrigation industries, communities, and the environment should be working together.
- No more recovery of water, including the 450 GL target, from the consumptive pool. The recovery of this water is seen to have significant socio-economic and water market impacts as discussed in a 2022 report on consumptive water, with little environmental gain due to governments failing to invest in addressing the key degradation drivers such as invasive species, lack of fishways, erosion and cold water pollution.

Ricegrowers Association of Australia (RGA)

The Ricegrowers Association of Australia represents over 1,000 voluntary members across the country, supporting these growers in the viability of their industry, business and communities since the 1930's. Representation of these growers in the policy areas of water, environmental sustainability, and productivity and industry affairs is the main role of the Association. With the majority of rice in Australia being grown in the Murrumbidgee and Murray Valleys in southern New South Wales, water management in the Basin is of the utmost concern to the Association to create a prosperous and progressive rice industry in Australia.

The RGA provided the MDBA with a submission directly addressing the questions.

What has worked well?

The RGA highlighted SDL compliance and achieving the Basin Plan goal of quantifying a sustainable level of take as key achievements. The Basin Plan is viewed positively as a catalyst for producers to improve on-farm efficiency with ricegrowers using 50% less water to grow rice than the world average. Industries were brought together under the pressure of the Basin Plan, and this has been a positive.

What hasn't worked well?

The RGA highlighted their poor experience with government consultation. This included the lack of timely notification of consultation sessions, over moderation of online public webinars, and consultation being commenced after drafting of an initiative seemingly indicating that the Government may already be set on its policy before consultation. There was a lack of location-specific consultation, vague 'catch-up' based consultation invites, mixed messaging from government, and the feeling that new ideas and suggestions raised were not heard or going to be acted on, discussed by the RGA.

The RGA also raised concern that a sitting government was able to change key Basin Plan legislation without bipartisan support, through the The *Water Amendment (Restoring our Rivers) Act 2023* (Cth). The focus on the achievement of water recovery volumes over environmental outcomes also raised concern, along with the Commonwealth's arbitrary requirement of the transfer of water licences to the CEWH, and perceived 'over focus' on the Lower Lakes, with the entire Basin Plan effort seeming to be fixated solely on this site. Constraints lifting efforts are also seen to be a failure by the RGA, with no improvement seen since the commencement of the Basin Plan.

The RGA observed that the pressure imposed by the Basin Plan (while it did bring industries together) had also served to significantly polarise states and territories, as well as causing conflict between different water-user groups.

Did anything unexpected happen?

Growing trends in the under use of consumptive water is seen by the Association to be a key example of something unexpected as a result of the Basin Plan. Other examples include a perceived imbalance between how irrigators and the environment are treated to account for each ML of water, with irrigators thought by the RGA to be held to more stringent accountability measures compared to the water use for environmental requirements. Trends within the use of water markets is also felt to be

unexpected by the RGA and is resulting in industries such as almonds playing an influential role in water reform and being seen to be driving government action such as new laws and policies.

What can be done better in the Basin?

The RGA provided some consultation and communication improvement suggestions, including increased respectful and meaningful consultation, inquiring first on how an entity wants to be consulted, understanding industry motivation to participate in any consultation, and learning from past consultation mistakes.

The RGA suggests better alignment of the Basin Plan to the extensive policy context it sits in. It sees the decoupling of water-use from the Basin's geography as problematic and recommends a move away from thinking that industry water use under the Basin Plan is ineffective and inefficient.

The RGA also calls for more acknowledgement of the hard work of irrigators in their application of best-practice, modernisation, and innovation principles. The RGA believes that Australia's rice industry is continuing to invest heavily in achieving water-use efficiency through genetic improvement; agronomy and farming systems; industry extension; and strengthened capacity. These efforts are not thought to be rewarded through Basin programs. The RGA seeks KPIs for environmental water use and has a preference for more practical and operational solutions over quantities of water recovered.

Appendix

Submissions from Peak groups that are not publicly available and hyperlinked in the report are overpage, with the groups as follows:

- Ecotourism Australia
- Healthy Rivers Ambassador for The Basin (representing the Lifeblood Alliance)
- Inland Rivers Network
- Murray–Darling Conservation Alliance
- National Irrigators' Council
- NRM Regions Queensland
- NSW Irrigators' Council

Ecotourism Australia
816/3 Parkland Blvd
Brisbane City Q 4000
eco@ecotourism.org.au
ecotourism.org.au

22 March 2024

[redacted]

Dear Ms Winter

Re: Submission to 2025 Basin Plan Evaluation

Thank you for the invitation to provide feedback to the 2025 Basin Plan Evaluation. Our feedback to each of the questions is provided below.

Ecotourism Australia

Tourism operators, particularly ecotourism operators operating nature-based activities in the Murray Darling Basin rely solely on the health of the river system for their business viability. The value of tourism to the Murray Darling Basin region is in excess of $11 billion per year, and where implemented appropriately, has a very small environmental impact on the Basin. Many tourism operators in the Basin are ECO Certified businesses who are recognised for their global best practice commitment to sustainable tourism. Sustainable tourism is about creating positive environmental, cultural and socioeconomic impacts and strong business sustainability practices and regional tourism operators do not just undertake their own activity – they work more broadly across their community to promote local products produced in the Basin as part of the tourism experience. They are mindful of authentic, cultural experiences and the need to support the businesses and considerations of Traditional Owners.

There is an opportunity for a 'balanced scorecard' of all activities in the Basin including tourism. The level of water extraction impacts wildlife, healthy forests, healthy fishing, and safe water for recreation. Ecotourism is appropriate use for the Basin, but cannot expand or prosper if the Basin is not effectively managed. Many tourism operators commenced operations, or continued operations because of the development of the Murray Darling Basin Plan providing assurance for the future management of the Basin region. There is feedback from operators that there is still too much water going out of the system, and more needs to be returned to support ecotourism activities. Tourism and agriculture can co-exist and prosper with effective management.

Ecotourism is defined as "ecologically sustainable tourism with a primary focus on experiencing natural areas that fosters environmental and cultural understanding, appreciation and conservation".

Operators achieving ECO Certification are acknowledged as having:

- Quality tourism products with a focus on nature
- Engagement interpretation/story telling
- A focus on regeneration and ensuring the place and the people are left better after their experience
- Measures and account for their impact (including carbon).

Question 1: What hasn't worked well?

There are several considerations, which include direct feedback from tourism operators in the Basin, on what hasn't worked well:

- The voice of tourism having a seat at the table is critical. There has been increasing opportunity for tourism to be part of consultation activities but there needs to be more opportunity for grass roots operators to participate and for relevant peak body and representative groups to be directly engaged.

- Tourism has not had the same equality in consideration in the way water is managed in the basin compared to other sectors.

- A documented focus on environmental goals is not clearly articulated. This creates an opportunity for criticism on basin management activities.

- The conversation and narrative around frequency of river rising events needs consideration. Our understanding is high river levels previously occurred every 1-2 years in the river delta but today only occur every 5-10 years because water is in storage. Where water is not able to naturally rise as frequently there is a degradation of the ecosystem. Without exception, every aspect of the river ecology system benefits from natural high river levels (fish, frog, insect breeding, plankton growth, irrigation for red gum forests etc). A conversation around the benefits of increasing high river levels – not necessarily to natural frequency, but to close the gap between the natural state and the current is important.

Question 2: What has worked well?

There are several considerations, which include direct feedback from tourism operators in the Basin, on what has worked well:

- The current model of consultation to include tourism in the peak body representative group of the Murray Darling Basin program.

- The targeted forum for held for key Environment and Tourism Basin representatives through the recent Roundtable.

- The on-ground engagement and consultation activity across the basin where MDB teams visit regions to local perspectives. There is an opportunity to improve this further through spending more time with tourism operators and experiencing the region through their product to help demonstrate the role and challenges faced by tourism operators.

- Recognition of entities like the Renmark Irrigation Trust and their role in good water stewardship and modelling good behaviour of appropriate water management.

- The commitment by the current Labour Government to the Murray Darling Basin Plan is acknowledged and much of the tourism industry can see a clear commitment from Minister Plibersek and the Department of Climate Change, Energy, the Environment and Water. The science and technology needs have been considered and implemented, and the current government appears to have a deep interest in the plan, and displaying positive leadership – which needs to continue to support continuous improvement and a desire for change.

Question 3: Did anything unexpected happen?

There are considerations, which include direct feedback from tourism operators in the Basin, on unexpected events:

- The flood (which peaked December 2022) delivered all the benefits the basin plan could deliver and therefore naturally demonstrated what is trying to be achieved by the plan.
- The reaction from some sectors to this event that there is no need for the Plan as a result of the flood.

Question 4: What/where/how could we do better?

There are several considerations, which include direct feedback from tourism operators in the Basin, on opportunities for improvement:

- Expand engagement with the tourism industry and in particular local tourism operators.

- Transparency in messaging and key communication activities
- More detailed environmental targets
- How the Basin Plan targets are being achieved
    - Clear, simple messaging and an easy-to-understand narrative about issues impacting the Basin
    - Tourism industry, particularly individual operators impacted by water management decisions, are not always given opportunity to sufficiently comment and input to the Basin plan

    ○ Consider sensitivities in messaging on river events – unbalanced information can lead to a reduction in tourism because of perceptions the river and surrounding basin are not viable for visitors
    - Modelling around climate change and impacts of water yield and rainfall can be better articulated and communicated
    - The value of tourism to the Basin can be expanded in communication activities

- More balanced and transparent information on high river events ○ A conversation and narrative around high river events and the natural ecological benefits that occur from these events including:
    - ecological growth
    - impact on populations of individual species
    - impact on biodiversity
    - the impact on endangered and threatened species and how high river events can positively impact these species

        - how a healthy river system works

More information about the role of Traditional Owners and their experience in managing high river events

    - Information distribution about positive impacts after a high river event (both to support ecological and environmental considerations, and to ensure appropriate information to inform tourist travel decisions.)

- Support the tourism industry and advocate for appropriate ecotourism activities in the Basin
    - Deeply understand the role of the Basin to support tourism activities
    - Ecotourism activities are appropriate because they implement measures to ensure positive environmental, socio-economic and cultural impact; and help promote and ensure the need for ecological diversity and protection – leading to a prosperous outcome for a region.
    - Develop a sustainable tourism strategy for the Basin that acknowledges tourism's fundamental role in building and sustaining communities and the environment they rely on
    - Work with local government authorities to support Eco Destination requirements and ideally working towards certification to ensure all regions are implementing sustainability in their destination management plans and execution. There are vast and numerous regions and destination in the Basin that all offer unique and localised experiences, but share a commonality that the Murray Darling system benefits them socially, economically and culturally.
    - It's in the interest of MDBA, local, state and federal government to support businesses and communities to support sustainable tourism because:
        - Communities and destinations benefit from ecotourism activities
        - The critical need to preserve our natural environments, species and flora; and educate visitors to protect and conserve the region they have visited
        - Ensures tourism operators balance providing visitors with experiences they want while ensuring protection of our natural environment, wildlife and biodiversity.
    - *See table on page 5 for water management requirements of ECO Certified Operators / ECO Destinations and alignment to United Nations Sustainable Development Goals*

- Support a dedicated Tourism Reference Group for consultation activities.

- Leading from examples set by other authorities such as the Great Barrier Reef Marine Park Authority (GBRMPA) that use the principles of ecotourism through local government and tourism operators to embed change and ensure global best practice standards are adopted by tourism operators. Over more than 15 years they have implemented many initiatives that could be similarly adopted by MDBA:

    - Implemented measures to incentivise tourism operators to achieve global best practice sustainability measures through recognised certification (eg ECO Certification by Ecotourism Australia) and recognise this through extended operating permits (20 year permits for ECO Certified operators)
    - Introduced a 'High Standard Tour Operator' program for tour businesses conducting their activities on the reef that provide both a benefit to the operator and ensure they

deliver accurate interpretation to their guests; and provide a communication network to the industry that rewards quality, research and environmental protection

- Created the 'Reef Guardians' program (where a 'River Guardian' program could be emulated for MDB regions)
- 'Eye on the Reef' research program introduced ('Eye on the River' program option) ○ Involve the tourism industry and Traditional Owners formally in all consultation and activities through the Tourism Reef Advisory Committee and Indigenous Reef Advisory Committee.

Ecotourism Australia
816/3 Parkland Blvd
Brisbane City Q 4000
eco@ecotourism.org.au
ecotourism.org.au

Understanding ECO Certified Tourism operator requirements

ECO Certified operators meet global best practice standards. Ecotourism Australia's ECO Certification standard is formally recognised by the Global Sustainable Tourism Council (GSCT).

Alignment of GSTC criteria and Sustainable Development Goals to show that ECO Certified **operators** meet global goals:

GSTC criteria	GSTC indicators	Sustainable Development Goal
D1.4 Water conservation Water risk is assessed, water consumption is measured by type, and steps are taken to minimize overall consumption. Water sourcing is sustainable and does not adversely affect environmental flows. In areas of high water risk, context-based water stewardship goals are identified and pursued.	a. Water risk in the main destinations visited has been assessed and documented. b. In destinations visited where water risk has been assessed as high, water stewardship goals have been determined. c. Water used in the organization's operations and those over which it has direct influence/control is monitored and managed. d. Equipment and practices are used that minimize water consumption. e. Water originates from a legal and sustainable source which has not previously affected, and is unlikely in future to affect, environmental flows. f. Consideration is given to cumulative impacts of tourism in the locality on water sources. g. Goals for reducing water consumption are in place. h. Staff and guests are given guidance on minimizing water use.	

D2.3 Wastewater Wastewater, including grey water, is effectively treated and is only reused or released safely, with no adverse effects to the local population or the environment.	a. The organization is aware of wastewater treatment arrangements in the main destinations visited, and seeks to influence their improvement where necessary and practicable. b. Wastewater resulting from is disposed of to a municipal or government approved treatment system, if available. i. If suitable municipal wastewater treatment is not available, there is a system in place on site to treat wastewater (that meets international wastewater quality requirements) and ensures no adverse effects on the local population and the environment.	 
D2.6 Minimize pollution The organization implements practices to minimize pollution from noise, light, runoff, erosion, ozonedepleting substances, and air, water and soil contaminants.	a. The potential sources of pollution covered in the criterion have been reviewed and identified. b. The potential sources of pollution covered in the criterion are monitored. c. Action is taken to minimize and where possible eliminate pollution from the sources covered in the criterion.	 

Alignment of GSTC criteria and Sustainable Development Goals to show global best practice standards for ECO Certified Tourism Destinations:

GSTC criteria	GSTC indicators	Sustainable Development Goal

D6 Water stewardship The destination encourages enterprises to measure, monitor, publicly report and manage water usage. Water risk in the destination is assessed and documented. In cases of high water risk, water stewardship goals are identified and actively pursued with enterprises, to ensure that tourism use does not conflict with the needs of local communities and ecosystems.	a. Provision of guidance and support for monitoring and reduction of water usage by enterprises. b. Program to regularly assess water risk. c. Setting, publication and enforcement of water stewardship goals, where water risk has been assessed as high. d. Monitoring and control of sources and volume of water used for tourism purposes and its effect on local communities and ecosystems. Promotion and checking of adherence to goals by tourism enterprises. e. Visitor information on water risk and minimising water use.	
D7 Water quality The destination monitors water quality for drinking, recreational and ecological purposes using quality standards. The monitoring results are publicly available, and the destination has a system to respond in a timely manner to water quality issues.	a. Programme of water quality monitoring. b. Existence of data and reports on water quality. c. Monitoring bathing water, with certification and identification of sites reaching set standards. d. Evidence of actions to improve water quality. e. Information for visitors on quality of local drinking water, to encourage use as alternative to bottled water.	 

D8 Wastewater The destination has clear and enforced guidelines in place for the siting, maintenance and testing of discharge from septic tanks and wastewater treatment systems. The destination ensures that wastes are properly treated and reused or released safely without adverse impacts on the local population and the environment.	a. Written guidelines and regulations on wastewater treatment. b. System of enforcing guidelines amongst enterprises. c. Monitoring/testing of released wastewater. d. Provisional of sustainable municipal water treatment systems, for use by the tourism sector, where practical and appropriate.	 

- WWF has a water risk filter tool which Ecotourism Australia link's to in our environmental management template as operators need to assess how they minimise water across operations. https://riskfilter.org/water/home --> map: https://riskfilter.org/water/explore/map

Information/references catalogue

Who is the Author or owner of this information?	Where is this information located (provide links or attach)?	Is this information publicly available. If not, are there any sensitivities we should be aware of?
Global Sustainable Tourism Council	https://www.gstcouncil.org/gstc-criteria/gstcindustry-criteria-for-tour-operators/	Publicly available
Global Sustainable Tourism Council	https://www.gstcouncil.org/gstc-criteria/gstcdestination-criteria/	Publicly available
United Nations	https://sdgs.un.org/goals	Publicly available

WWF Australia	https://riskfilter.org/water/home	Publicly available

Ecotourism Australia
816/3 Parkland Blvd
Brisbane City Q 4000
eco@ecotourism.org.au
ecotourism.org.au

About Ecotourism Australia

Ecotourism Australia is recognised as the credible, national peak body for sustainable, eco and nature-based tourism in Australia. It is a non-government, not-for-profit member organisation, established in 1991, that promotes and supports the ecotourism industry in Australia through building capacity and actively promoting sustainable tourism operations and systems. Our foundational program – ECO Certification – was the world's first national ecotourism certification program. Ecotourism Australia's Certification programs, including the new Sustainable Tourism Certification, are acknowledged globally, and our standard is recognised by the Global Sustainable Tourism Council (GSTC).

We have more than 1,800 certified tourism tours, accommodation and experiences with more than 500 operators in our ECO, Sustainable Tourism, Climate Action, and Respecting Our Culture Certifications. In 2018 we launched the ECO Destination Certification program where operators and government work together to demonstrate a community-wide and entire regions' commitment to sustainable tourism management practices. Today there are 20 destinations in Australia and the Pacific participating in the program.

In late 2022, three new sustainability programs were launched: Sustainable Tourism Certification, Sustainable Tourism Destination Certification, and the pre-certification benchmarking program the Strive 4 Sustainability Scorecard. These programs are based on our ECO Certification standard and are designed to support the broader tourism industry to demonstrate their commitment to, and be recognised for, the four pillars of sustainability: environmental, cultural, financial/business, and socio-economic. Our core legacy program, ECO Certification, showcases ECO Certified operators' sustainability leadership with additional criteria for wildlife engagement and conservation.

Ecotourism Australia's certification programs are acknowledged globally, and our standard is recognised by the Global Sustainable Tourism Council (GSTC). We are also members of a global alliance of approximately 20 representative certifying bodies who have, for up to 30 years, been responsible for the development of internationally accepted sustainability criteria, which constitute the industry-recognised standard for sustainable tourism. This Alliance, which includes Ecotourism Australia, Green Key, Green Globe, Green Destinations, Travelife for Accommodation, Travelife for Tour Operators, Biosphere, Good Travel Seal, and TourCert are committed to collaboration to ensure the continuous improvement of the sustainable performance by all these bodies and that our professional services are provided fairly and affordably across all sectors and to all businesses in the travel and tourism industry.

As leading sustainability certifiers, the organisations have ensured that the criteria and indicators of the industry-recognised standard have been developed for use in various countries, regions, and geographies, as well as urban, rural, and remote areas. This process of homologation has provided the travel and tourism industry with the ability to comply with the standard, via actions that deliver sustainable outcomes in their local setting.

Ecotourism Australia has global partnerships, working with the Global Sustainable Tourism Council (GSTC), the United Nations Educational, Scientific and Cultural Organisation (UNESCO), the United Nations World Tourism Organisation (UNWTO) and Green Destinations (an international organisation for sustainable destination development), and key partnerships in the Asia-Pacific region including with WWF-Australia, Parks Australia, and the Great Barrier Reef Marine Park Authority (GBRMPA).

- The total combined annual revenue of EA's certified operators in 2021 was AUD $1.6 billion.

- Ecotourism Australia's members employ more than 14,000 people in sustainable, largely regionally based jobs across the country.
- 62 certified operators are in Ecotourism Australia's Hall of Fame for holding certification for 20 years or longer. 14 of those have held ECO Certification for 25 years.
- More than 50% of Ecotourism Australia members have been Certified for over 10 years.
- This year 31 Ecotourism Australia certified operators were nominated for 36 awards at the Qantas Australian Tourism Awards (QATA). There were 12 Ecotourism Australia certified operators across four states and territories who placed at the awards for tourism excellence in 2022 across 15 diverse categories including Unique Accommodation, Aboriginal and Torres Strait Islander Tourism Experience, Adventure Tourism, Major Tourist Attractions and Ecotourism.
- 20% of 2023 Australian Tourism Exchange sellers are Ecotourism Australia certified operators.

The changing needs of tourism and expectations of travellers

Research over the past few years and reports from Expedia, booking.com, American Express and others has found a growing consumer interest in what businesses are doing in terms of sustainability. The global pandemic and rising global awareness have influenced people to travel more sustainably in the future and factor sustainability into their travel choices. We know from various reports that increasingly more and more travellers are actively looking for sustainable options when travelling; travellers will choose a destination or experience committed to supporting culture and community; and that they may spend more to ensure an authentic, sustainable and responsible travel experience. Sustainability is no longer a nice to have, but an imperative part of business. It is evident that the tourism industry needs to continue develop new ways to improve and embrace sustainability to deliver positive environmental, socio-economic and cultural impacts to bring benefit to local communities and the destination whilst being economically sustainable to withstand shocks over time.

The Murray Darling Basin has some 20 ECO Certified operators currently through tours, attractions and accommodation products. As a region of national significance, tourism is a key and important contributor to positive environmental, socio-economic, and cultural impact and to support the positive management and use of the rivers, lakes, wetlands across the Basin and conserve the plants and animals that depends on these systems. As noted by the Murray Darling Basin Authority, tourism contributes more than $11billion annually. Source: Basin Plan | Murray–Darling Basin Authority (mdba.gov.au).

The Sustainable Travel Report 2023 (booking.com), the Sustainable Travel Study 2022 (Expedia) and the Global Trends Travel Report 2023 (American Express) notes of travellers surveyed:

- 74% want more sustainable travel choices
- But 44% don't know where to find them or what is credible and are cautious of greenwashing
- 66% want to leave a place better than they found it
- 60% of people are actively looking for more eco-friendly transport and accommodation
- 65% claim to look for, and feel better about booking, an operator with credible certifications
- Almost 70% of people want to hear what tourism operators are doing in regard to sustainability
- Almost 70% want the money they spend on holidays to stay in the local community they visited
- 3 in 5 tourists opted for more environmentally friendly transport or lodging
- More than 80% of travellers want to truly experience the local culture; and are seeking authentic experiences.

In 2022 the World Travel and Tourism Council surveyed 180 travel and tourism businesses of all sizes and found that businesses were primarily concerned about capacity constraints and costs of implementing sustainability, but they had a limited understanding of how to put sustainability commitments into practice.

The value of eco and nature-based tourism experiences

Nature-based tourism is a significant contributor to Australia's national economy. Tourism Research Australia (TRA) includes the following activities as nature-based tourism:

- Visit national parks or state parks
- Visit botanical or other public gardens
- Bushwalking or rainforest walks
- Whale or dolphin watching
- Snorkelling and scuba diving
- Fishing and water based recreation
- Visit wildlife parks, zoos or aquariums

Tourism Research Australia – National Visitor Survey:

- In 2019, 23.1 million domestic visitors undertook a nature-based activity during their overnight trip, spending approximately $21.6 billiion.

- In 2021, 20.9 million domestic visitors undertook a nature-based activity during their overnight trip, spending approximately $22.7 billion.

Tourism Research Australia – International Visitor Survey:

- In 2019, 5.8 million international visitors undertook a nature-based activity during their overnight trip, spending approximately $23.6 billion.

There is enormous opportunity to support ecotourism in the Murray – Darling Basin.

International recognition for Australia's ecotourism commitment

Further protection of our natural environment, parks and natural assets is crucial, not only to support ecotourism activities, but the broader visitor economy in Australia. In August 2023, Australia was recognised as the top ecotourism destination in Australia Pacific through a Forbes Advisor research project. Australia recorded an Ecotourism Global Index Score of 84 out of 100, based on factors including biodiversity, the number of UNESCO Natural Heritage Sites and the percentage of protected areas – the highest in our region, and the third highest globally.

Australia had the highest number of UNESCO Natural World Heritage Sites of any country in the world surveyed, with around 20% of Australia's landmass protected, and 101 of our 127,000 species of animals and plants are protected; and we have the longest living culture in the world. The natural environment and cultural heritage are key drivers to support the visitor economy.

Tourism Australia research in 2022 highlights that 75% of travellers are committed to sustainability in some way, noting the ethical treatment of wildlife, respecting and preserving the cultural heritage of a destination, supporting local businesses, off-setting carbon emissions and protecting natural environments were important factors. When presented with a range of experiences, the research found 80% of respondents chose the more sustainable option. Travelers, both domestic and international, are increasing seeking to 'travel for good'.

More than 60% of ECO Certified operators operate within protected areas in Australia.

THRIVE 2030

Ecotourism Australia is committed to promoting responsible tourism and driving positive change across the tourism industry through collaboration, partnerships and action to support the objectives of the THRIVE 2030 Strategy. Sustainability is a key pillar in the THRIVE 2030 strategy, and a commitment to, and support for, a more sustainable tourism industry is critical for Australia's recovery and if we are to achieve a visitor economy of $166 billion by 2024 and $230 billion by 2030.

Ecotourism Australia is formally recognised under Priority 4 noting our pathway to Certification program, Strive 4 Sustainability Scorecard, and in Priority 7 with reference to our Respecting Our Culture (ROC) Certification. We will continue to amplify these programs across all sectors of the tourism industry and look forward to working with the federal government and other industry representative groups to deliver this critical strategy, and other government priorities.

Thank you for the opportunity to provide feedback to the 2025 Murray – Darling Basin Plan Evaluation. As a region of national significance, tourism is a key and important contributor to positive environmental, socioeconomic, and cultural impact of the Basin and we are committed to supporting the positive

management and use of the rivers, lakes, wetlands across the Basin and conserve the plants and animals that depends on these systems and supporting appropriate tourism activities for these regions.

Yours sincerely

[redacted]

[redacted]
Chief Executive Officer

LIFEBLOOD ALLIANCE
lifebloodalliance@gmail.com

Murray–Darling Basin Authority
GPO Box 1801
Canberra City, ACT 2601

Murray–Darling Basin Plan Review 2026

Lifeblood Alliance consists of environmental, First Nation and community groups committed to keeping the rivers, wetlands and aquifers of the Murray–Darling Basin healthy for the benefit of current and future generations.

We thank the Murray–Darling Basin Authority (MDBA) for the opportunity to participate in the regulatory review of the Basin Plan.

We provide the following input into the MDBA 'Basin Community Perspectives Report'.

What hasn't worked well?

Implementation of Basin Plan as Legislated

- The Basin Plan as implemented has not reduced over-allocation, and it has not reduced the situation of more water having been licensed than exists
- The Plan has failed to deliver an environmentally sustainable level of take based on best available science, with the final water recovery target based on political compromise
- The complex arrangements for implementation have allowed delays or failures in development and delivery of key elements of the Basin Plan
- There have been no penalties for repeated failures to meet agreed deadlines
- The Basin Plan did not include the impacts of climate change on future water availability.

Water Recovery - Offsets and Delivery

- The concept of 'environmental equivalence' is unproven, it has been challenged by scientists and has not been monitored or delivered
- SDLAM projects have not delivered the offsets for the 605 GL credits allowed in advance in Southern Basin and it is predicted that 195 – 314 GL of the 605 GL will not be delivered at all
- Almost total failure to deliver constraints projects to date is limiting effective delivery of recovered environmental water. Constraints projects should have been managed separately, not included in the SDLAM process
- The failure by NSW to complete satisfactory Water Resource Plans, missing deadlines by more than 2.5 years and ignoring critical recommendations from the NSW Natural Resources Commission, especially for the Barwon-Darling WRP in 2019
- The vastly increased development of the almond industry has not been required to secure sufficient long term water entitlements, creating a potential future problem when these

crops reach maturity and their maximum water requirement, affecting water availability, prices on the temporary water market and capacity for transfers.

Water Recovery – Efficiency Measures / Buy-backs

- Efficiency projects have not been adequately audited to demonstrate that the claimed volumes of water actually have been delivered, and from now on need to ensure effective auditing
- Toolkit projects have not been delivered to off-set 70 GL credits in Northern Basin
- Water recovered from some Efficiency Projects has cost up to $20,000/ML.

Operating Rules and Delivery

- Catastrophic fish kills in the Darling catchment have occurred due to environmentally insensitive management of flows and failure to enforce water-sharing rules in the upper catchment
- Current management of flow regimes prevents overbank flows in lower reaches in high flows until upstream storages are over-topped and spilling uncontrollably
- Constraints on operating rules prevent delivery of overbank flows during moderate to high river flows
- Constraints prevent delivery of small overbank flows onto floodplains for delivery of environmental water to target sites during regulated flows and freshes
- The South-east flows SDLAM project to provide 25 GL to the upstream end of the Coorong does not mimic the natural flow regime of rare freshwater inputs from this source and is causing problems with water quality, algal blooms and loss of key aquatic plants which are critical food sources for waterbirds.

Communications and Engagement

- Development of draft plan (2007–2010) was behind closed doors with lack of communication and engagement leading to spreading of misinformation and community resistance
- Lack of clear communication of evidence of extent of degradation and clarity of ecological targets in the Plan, failure to generate support for proposed measures
- Complicated water sharing plans did not include commitment to basin objectives such as connectivity and shepherding of environmental flows to reach target wetlands
- Persistent misinformation about environmental flows causing floods and constraints causing floods was not addressed, need to explain the benefits of environmental flows to whole communities, and the very minor volumes involved
- Difficulty in accessing information from outside agencies, being referred to websites to find the information sought, and having to hunt through links and voluminous reports.

Evaluation and Accountability

- Cancellation of Sustainable Healthy River Audits which were providing ongoing assessment of progressive Basin health status as the implementation of the Plan progressed
- Water theft and initial lack of compliance, lack of metering and auditing

- NSW submission of unacceptable plans despite agreed assessment criteria and ongoing excessive delays in upgrading the plans to an acceptable level, 2.5 years late and still not approved
- Funds to support community impacts from water reform were not delivered transparently, audited or outcomes reported. The initial rounds were used as pork barrelling exercises and did not go to the most affected communities.
- Total lack of progress in setting up systems to provide cultural water and very serious failures to consult indigenous communities
- Funds ($40M) allocated to indigenous cultural water committed but were never transferred.

What has worked well?

Implementation of Basin Plan as Legislated

- The regionalisation of Federal agency staff has created greater links to State agencies; regional bodies and communities
- The five-year progress reviews by the PC have provided an honest assessment of progress and how to respond (although not implemented by Government)
- The development of 'Road Maps' and 6 monthly 'Report Cards' by the MDBA has been very useful
- The introduction of the office of the Inspector-General has provided a critical instrument for compliance. It will need to maintain independence and be provided with increased resources.

Water Recovery - Offsets and Delivery

- Some SDLAM projects have been well developed and accepted, particularly those initiated under The Living Murray as complementary measures. Projects using gravity flow to cover large floodplain areas or anabranches such as the Chowilla floodplain project have allowed for very effective use of environmental allocations which subsequently feed further downstream.

Water Recovery – Efficiency Measures / Buy-backs

- The buy-back program initiated under The Living Murray Program while the Basin Plan was being developed was very successful, with 500GL acquired for $700 – 1400/ML
- Voluntary, open-tender water purchases supported by investments in community services give the most efficient and effective results for water recovery
- Current higher water prices are a product of increasing competition for available water and market forces.

Operating Rules and Delivery

- CEWO coordinated environmental flows to create spring pulse flows through multiple river valleys is working very well, with positive benefits recorded at multiple wetlands along the passage of the pulse flows, culminating in significant benefits to the Coorong and Lower Lakes Ramsar site and other Ramsar sites along river valleys

- The CEWO water accounting system for volumes which cannot be metered has been thoroughly developed and proven
- The timing of environmental water delivery to avoid peak irrigation demands
- The supply of water over the barrages, when they would otherwise be closed, has been very beneficial to the estuary and native fish migration and breeding (although not enough, yet, for the Coorong!).

Communications and Engagement

- More transparent reporting and more regular community engagement has been occurring over the past two years
- MDBA Peak Bodies forums are a very useful communication tool, as are the Regional Forums.

Evaluation and Accountability

- The introduction of the office of the Inspector-General, also the establishment of the NSW Natural Resource Access Regulator (NRAR) to ensure better compliance with water regulations
- 5 yearly implementation reviews by the Productivity Commission, with comprehensive recommendations
- Recent introduction of six-monthly progress reports
- FlowMER monitoring is providing a sound scientific base for future assessment of environmental benefits, albeit short of long-term data.

Did anything unexpected happen?

Implementation of Basin Plan as Legislated

- The sheer scale of delays since 2012 and re-interpretation of agreements by upstream governments to delay water recovery and delivery of Plan elements on a very serious and damaging scale
- The catastrophic failure to implement the concept of ESLT, the fundamental tenet of the Water Act
- The loss of 70 GL for environmental health in the Northern Basin through the faulty and unscientific Northern Basin Review, in spite of scientific submissions to the contrary
- The naïve development of SDLAM projects without consultation and impact assessment leading to strong community resistance
- The failure to adopt two independent expert reports, with specific recommendations for minimum flows in the Darling/Baaka to prevent further fish kills after 2019. This lack of action has resulted in the further ecological collapse of the Darling/Baaka and lower resilience to extreme dry weather events.

Water Recovery - Offsets and Delivery

- The discovery of a 100,000 tonne sand slug generated by historic mining in the tributaries which has migrated into the Barmah Choke and is now greatly exacerbating delivery constraints

- Issues with delivery shortfalls affecting both irrigation and environmental water delivery.

Water Recovery – Efficiency Measures / Buy-backs

- The 1500 GL cap on buybacks prevented willing sellers from being able to assign their water to environmental use and blocked any effective progress towards Basin Plan recovery targets from 2015 to 2021
- Agreement to prohibitive socio-economic criteria on efficiency projects to deliver the 450 GL, in spite of the Ernst & Young report that these impacts could be managed and the 450 GL could be recovered
- Floodplain harvesting licences recently issued in NSW have the potential to remove a further 300 GL/y from the recovery volume, but there seemed to be nothing other states or the Basin Plan could do to stop that. Even the Southern Basin irrigators could recognise that this generated on a shortfall in inflows from the Northern Basin.

Operating Rules and Delivery

- No overbank flows arrived in the lower reaches during the first two years of extreme rainfall during La Ninã conditions, while upstream systems were flooding
- Devastating uncontrolled floods in central west New South Wales when full storages spilled and high flows converged from separate river valleys, combined with local catastrophic rain bomb events
- Floodplain harvesting licences recently issued in NSW have the potential to remove a further 300 GL/y from the recovery volume, but there seemed to be nothing other states or the Basin Plan could do to stop that.

Communications and Engagement

- Messaging around the 450 GL got politicised an it became a major point of contention and delay. It is not just South Australia which benefits, the 450 GL will benefit all locations along the river valleys as it flows through and provides connectivity for all the ecosystems along the way, with benefits to multiple wetlands and river communities
- The 1500 GL cap on buybacks prevented willing sellers from being able to assign their water to environmental use and blocked any effective progress towards Basin Plan recovery targets from 2015 to 2021
- The vastly increased development of the almond industry requires more water to be delivered further downstream, causing environmental damage from Inter Valley transfers. This water demand has been politically conflated with environmental water releases, instead of highlighting the need for reform of water markets and conditions for water transfers.
- The greatly increased use of Zoom due to Covid has had a positive effect, it has meant unfunded volunteer groups can join in many more discussions!!

Evaluation and Accountability

- The loss of 70 GL for environmental health in the Northern Basin through the faulty and unscientific Northern Basin Review, in spite of scientific submissions to the contrary. This has resulted in the further ecological collapse of the Darling (Baaka) and lower resilience to extreme dry weather events.

What could be done better?

Implementation of Basin Plan as Legislated

- Basin Plan 1.0 with recent amendments must finish addressing the issue of over-allocation within the extended timeframes
- There must be a full, transparent account of all water recovered under the initial Plan
- Basin Plan 2.0 must address effects of climate change reducing available water even further, and share the required reductions in allocations evenly across production users and environmental needs
- Flow requirements are the fundamental metric for determining whether the Basin Plan is satisfying ecosystem needs. Flow targets must link up through all sub-catchments to ensure that flows are continuous through the entire Basin, including minimum flows to downstream reaches
- Stronger enforceable financial penalties are needed to ensure that timelines are met for delivering outcomes, eg Individual valley SDLs and WRPs
- Water management plans must include long term targets and accounting which continue through regular review deadlines, with effective, enforceable penalties for failure to meet deadlines
- Water reforms need to ensure that transfers are deliverable at the new location, eg don't transfer from a permanent river to an ephemeral system
- Water accounting needs to take into account the future water needs of the crop, and to make sure that permanent plantings have purchased sufficient permanent water to meet future crop needs without distorting the temporary water market
- Assessment of the impact of future plantings needs to take into account not just area planted but also future water demand, for example changes from vine to almonds, which have much higher water demands as they mature
- Ensure transparent water auditing and accountability, with enforceable penalties for breaches.

Water Recovery - Offsets and Delivery

- Ensure accounting for all SDLAM projects is transparent and published, including evidence of water recovered and environmental benefits claimed
- SDLAM ecological equivalence process needs to be reviewed and justified urgently. It was flawed with adoption rushed through Parliament before all identified problems were solved. The change from the full adjustment mechanism projects being in place before the ecological equivalence test is run is a further threat to environmental outcomes. The crediting of individual projects has eroded the validity of the process.

Water Recovery – Efficiency Measures / Buy-backs

- Water purchase remains the most cost-effective measure to achieve the primary objective of water recovery
- Community support to mitigate potential impacts of water purchase should be carefully targeted and managed to achieve optimum positive outcomes

- Ensure accountable auditing of community funds invested to offset impacts of reduced water availability for industry
- Ensure that community assistance payments can provide effective support to communities affected by water trading impacts, with clear accounting and reporting procedures
- Increase positive publicity about the benefits of environmental water to the wider community.
- Efficiency projects should consider private commercial benefits and develop cost sharing arrangements in order to bring the costs of water recovery closer to direct water purchase.

Operating Rules and Delivery

- Require end-of-systems flows from every sub-catchment to be included in Water Sharing Plans
- Manage small to medium floods to deliver overbank flows to lower valleys, while reducing risk of damaging floods if uncontrolled spills occur from large dams
- Review MDBA operating rules, which currently are 1) store all water, 2) only let flows out to create airspace for more inflows, and 3) don't flood any floodplains! Investigate options for manage controlled short overbank flows to direct environmental water to key targets on floodplains
- Review all storage release rules and develop rules for controlled releases of water more frequently for environmental benefits and reduced flood risks
- Review operating rules for Menindee Lakes to require minimum low flows from the upper catchment, minimum reserve volume of 400 ML in the lakes, and minimum flows to the Lower Darling to support fish populations and prevent low oxygen levels, algal blooms and blackwater events
- Fast-track delivery of cultural flows and ensure effective engagement with Indigenous communities.

Communications and Engagement

- Maintain the pace and scope recently developed
- Emphasise the benefits in real time and longer timeframes, and report clearly on whether Basin Plan targets are being met
- Increase positive publicity about the benefits of environmental water to the wider community.

Evaluation and Accountability

- Funds to support communities need to require outcomes to improve their long-term resilience
- Improve transparency around the assessment of water sharing plans and the process for amendment to an acceptable standard
- Ensure transparent water auditing and accountability, with enforceable penalties for breaches
- Accountable auditing of community funds invested to offset impacts of reduced water availability for industry
- Vigilant regular reporting and enforceable penalties are needed to prevent continued failures to deliver within the extended deadlines.

List of Useful References

Topic	Reference
Failure to meet Basin Plan environmental targets	Ryan, A, Colloff, M J & Pittock, J (2021). 'Flow to nowhere: the disconnect between environmental watering and the conservation of threatened species in the Murray–Darling Basin, Australia'. *J Marine and Freshwater Researc*h. https://doi.org/10.1071/MF21057 Colloff, M. & Pittock, J. (2022) 'Mind the gap! Reconciling environmental water requirements with scarcity in the MurrayDarling Basin, Australia'. *Water*, **14**, 1–16. Sheldon, F., E. Rocheta, C.M.M. Steinfeld, M.J. Colloff, B. Moggridge, E. Carmody, T. Hillman, R. Kingsford, and J. Pittock, 2023. 'Testing the achievement of environmental water requirements in the MurrayDarling Basin, Australia'. *Marine and Freshwater Research*. DOI: 10.13140/RG.2.2.24580.71045/1
Lower Lakes were naturally fresh Barrages are required to counteract effect of upstream extractions	J. Tibby, D. Haynes, M. Gibbs, L. Mosley, R.P. Bourman, J. Fluin (2022). 'The terminal lakes of the Murray River, Australia, were predominantly fresh before large-scale upstream water abstraction: Evidence from sedimentary diatoms and hydrodynamical modelling'. Science of The Total Environment, Volume 835, 20 August 2022, 155225. Tibby, J, Haynes, D & Muller, K (2020). 'The predominantly fresh history of Lake Alexandrina, South Australia, and its implications for the Murray–Darling Basin Plan: a comment on Gell (2020)'. *Pacific Conservation Biology*, 2020, **26**, 142–149 https://doi.org/10.1071/PC19039 R. P. Bourman, C. V. Murray-Wallace, C. Wilson, L. Mosley, J. Tibby, D. D. Ryan, E. D. De Carli, A. Tulley, A. P. Belperio, D. Haynes, A. Roberts, C. Westell, E. J. Barnett, S. Dillenburg, L. B. Beheregaray & P. A. Hesp (2022). 'Holocene freshwater history of the Lower River Murray and its terminal lakes, Alexandrina and Albert, South Australia, and its relevance to contemporary environmental management'. *Australian Journal of Earth Sciences*, **69:5**, 605-629, DOI:

	10.1080/08120099.2022.2019115 https://doi.org/10.1080/08120099.2022.2019115
Basin Plan not primary driver in social and economic decline of Basin communities, there are multiple other drivers	Wittwer, G (2020). *Modelling variants of the Murray–Darling Basin Plan in the context of adverse conditions in the Basin*. Report commissioned by the Panel for the Independent Assessment of Social and Economic Conditions in the Murray–Darling Basin. Centre of Policy Studies, Victoria University, Melbourne. Grafton, R.Q. & Wheeler, S.A. (2018). 'Economics of water recovery in the Murray–Darling basin, Australia'. *Annual Review of Resource Economics*, **10**, 487–510.

	Loch, A., Auricht, C., Adamson, D. & Mateo, L. (2021). 'Markets, misdirection and motives: A factual analysis of hoarding and speculation in southern Murray–Darling basin water markets'. *Australian Journal of Agricultural and Resource Economics*, **65**, 291–317. Wheeler, S.A., Loch, A., Zuo, A. & Bjornlund, H. (2014a). 'Reviewing the adoption and impact of water markets in the Murray–Darling basin, Australia'. *Journal of Hydrology*, **518**, 28–41. Wheeler, S., Carmody, E., Grafton, R.Q., Kingsford, R. & Zuo, A. (2020a). 'The rebound effect on water extraction from subsidising irrigation infrastructure in Australia'. *Resources, Conservation and Recycling*, **159**, 104755.

Voluntary and fully compensated buybacks are much less costly than infrastructure upgrades to obtain a target volume of environmental water. Public spending on health, education and other services in the Basin could create 3-4 times as many jobs in the Basin.	Wittwer, G. & Dixon, J. (2013), "Effective use of public funding in the Murray–Darling Basin: a comparison of buybacks and infrastructure upgrades". *Australian Journal of Agricultural and Resource Economics*, **57**(3): 399-421.
Ensuring water economic studies are rigorous and	Wheeler, S A, Xu, Y & Zuo, A (2022). 'Developing an economic quality assessment framework and applying it to water economic studies in the Murray–Darling Basin'. Environmental Science & Policy, Volume 152, February 2024, 103654.

soundly based	
2800 GL would not meet environmental targets even with all constraints relaxed	Gibbs, M, Higham, J, Bloss, C, Bald, M, Maxwell, S, Steggles, T, Montazeri, M, Quin, R & Souter, N (2012). *Science Review of MDBA Modelling of Relaxing Constraints for Basin Plan Scenarios*. Technical Note 2012/01. SA Department of Environment, Water and Natural Resources, Adelaide.
>70% decline of waterbird populations since 1983, need to modify water management to support key breeding and survival conditions	Bino G, Brandis K, Kingsford RT and Porter J (2021). 'Shifting Goalposts: Setting Restoration Targets for Waterbirds in the Murray–Darling Basin Under Climate Change'. *Front. Environ. Sci*. **9**:785903. doi: 10.3389/fenvs.2021.785903
Reduced water availability under climate change will have greater impact	Hart, B (2022). *Policy changes are needed to better protect environmental water from climate change in the Murray–Darling Basin.* Goyder Institute for Water Research. www.goyderinstitute.org/news/2022

on environment than consumptive users under current conditions	
Managing Lower Darling to avoid fish kills	Australian Academy of Science (2019). *Investigation of the causes of mass fish kills in the Menindee Region NSW over the summer of 2018–2019*. The Academy, Canberra.
	Vertessey, R, Barma, D, Baumgartner, L, Bond, N, Mitrovic, S & Sheldon, F (2019*). Independent Assessment of the 2018–19 fish deaths in the lower Darlin*g. Murray–Darling Basin Authority, Canberra. https://www.mdba.gov.au/sites/default/files/publications/summaryhttps://www.mdba.gov.au/sites/default/files/publications/summary-final-report-independent-panel-fish-deaths-lower-darling-2019.pdffinal-report-independent-panel-fish-deaths-lower-darling-2019.pdf
The Darling and Murray did not dry down to waterholes in droughts before European settlement	Mallen-Cooper, M & Zampatti, B P (2018). 'History, hydrology and hydraulics: Rethinking the ecological management of large rivers'. *Ecohydrology*. **2018; e1965**. https://doi.org/10.1002/eco.1965
Gayini Nami-Caira land and water manage	Rene Woods, Ian Woods & James A. Fitzsimons (2022). 'Water and land justice for Indigenous communities in the Lowbidgee Floodplain of the Murray–Darling Basin, Australia'. *International Journal of Water Resources Development*, **38**:1, 64-79, DOI: 10.1080/07900627.2020.1867520 To link to this article: https://doi.org/10.1080/07900627.2020.1867520

ment model	

We are happy to provide further information or clarification if needed.

Yours sincerely

[redacted]

For LIFEBLOOD ALLIANCE

Member Groups

Australian Conservation Foundation, NSW Nature Conservation Council, Conservation Council of South Australia, Environment Victoria, Queensland Conservation Council, Murray Lower Darling Rivers Indigenous Nations, Northern Basin Aboriginal Nations, River Lakes and Coorong Action Group, Inland Rivers Network, National Parks Association of NSW, Goulburn Valley Environment Group, Healthy Rivers Dubbo, Central West Environment Council and Healthy Rivers Lower Murray

INLAND RIVERS NETWORK

PO Box 216, DUBBO NSW 2830 **ph** 0428 817 282
email inlandriversnetwork@gmail.com
web inlandriversnetwork.org **ABN** 34 373 750 383

Murray–Darling Basin Authority
GPO Box 1801
Canberra City, ACT 2601

Tuesday 12 March 2024

Evaluation of Basin Plan

Introduction

The Inland Rivers Network (IRN) is a coalition of environment groups and individuals that has been advocating for healthy rivers, wetlands and groundwater in the Murray–Darling Basin since 1991.

We appreciate the opportunity to provide input into the Community Response Report, an element of the evaluation process for the Murray–Darling Basin Plan 2012.

Response to Questions: Q1.

What hasn't worked well?

IRN has a number of concerns about the implementation of the Basin Plan. We note that the recent review by the Productivity Commission basically concurs with our position.

1. Sustainable Diversion Limits (SDL) and Environmentally Sustainable Level of Take (ESLT)

The setting of an ESLT was a compromised outcome and not based on the best available science to recover Basin resilience and health. The volume of water currently recovered has a Long Term Annual Average Yield of less than 2,000 GL due to the varying levels of security of licences acquired.

The Site Specific Flow Indicators (SFIs) used to determine SDLs did not cover key catchments eg Macquarie in the Northern Basin. There has been no reporting against the nominated SFIs to demonstrate any improvement.

SDLs in the Northern Basin were credited against different catchments than the original determination. The shared reduction target was swapped from the Border Rivers to the Warrego, while the Macquarie shared reduction target was swapped to the Intersecting Streams. These decisions were not based on science or the availability of flows.

The granting of floodplain harvesting licences in NSW Northern Basin rivers caused the SDLs in those valleys to be raised with no reference to SFIs or any other consideration of environmental, cultural or social impacts.

The SDLs in NSW Northern Basin rivers are higher than the plan limits in water sharing plans.

2. Sustainable Diversion Limit Adjustment mechanism (SDLAM)

The process of adopting the SDLAM supply measures was flawed with significant problems identified in technical reports being ignored. There were no businesses cases for the projects and very limited community consultation. The package was pushed up to Parliament before the MDBA responded to submissions.

IRN also had major concerns about the development of the ecological equivalence methodology. We understood the entire SDLAM package was to be completed before the ecological equivalence test was conducted. The awarding of saved water on a project by project basis, as is now the practice, is contrary to the original intent of the ecological equivalence assessment process.

We are not surprised that this aspect of the Basin Plan has failed. We have little confidence in the process and do not agree that ecological outcomes are being achieved. In fact, the opposite is occurring.

An example is the South East Flows Restoration Project in the Coorong. This project delivers a very small contribution to the SDLAM while threatening an important wetland food source for waterbirds (*Ruppia tuberosa*). The flows from this project do not mimic the natural flow regime of rare freshwater inputs from this source. They are causing problems with water quality and algal blooms as well as loss of key aquatic plants that are critical food sources for waterbirds.

3. Efficiency measures and water recovery

The lack of progress on achieving the essential 450 GL of additional water to improve river and wetland health was caused by the restrictive socio-economic criteria placed on project assessment. The on-farm efficiency projects have been exorbitantly expensive with limited accountability or assessment of actual water recovered for the cost. These projects have been private subsidies with no transparent accounting of value for money through public investment. There has been no evaluation of loss of return flows to the environment through these projects which could result in a negative outcome rather than additional water recovery.

The cessation of the voluntary buyback program resulted in the failure to meet the required catchment SDLs by 2019. This gap is still outstanding in some catchments.

The Water for the Environment Special Account was not well resourced or implemented. This contributed towards the failure to meet water recovery requirements and deadlines.

4. Northern Basin Review

The poor outcome of the Northern Basin Review was unscientific and based on biased socioeconomic evidence that did not include the social, cultural and environmental values of a healthy, well connected river system. The removal of 70 GL from the Sustainable Diversion Limit (SDL) has caused loss of critical flows to the Darling/Baaka and has compounded the ecological decline of that river system. This decision also reduced connectivity opportunities with the Lower Darling and Lower Murray.

The ongoing water quality problems and subsequent massive fish kills in the Darling/Baaka demonstrates that more water for environmental restoration is needed in the Northern Basin.

Economic and social considerations in the Review were designed to focus on supporting communities that had benefitted most from extraction of water, i.e. those upstream that would have less ongoing financial benefit if the original SDL was retained and less water was recovered for the environment. The non-financial economic and social benefits of leaving water to keep flowing were ignored or underweighted, such as people being able to catch a free protein feed from the river being healthier and happier, and better flows early in a drought or during drought reducing the risks of communities running out of water and having more health and social issues when the river rarely flows. Financial multiplier effects appear smaller in communities that have already declined.

The toolkit measures adopted as complementary measures for environmental outcomes in the Northern Basin are still to be delivered. Fish ladders can only operate when water is flowing through them. These projects are critical for providing improved fish passage but do not replace the need for more river flow.

The failure to protect Held Environmental Water (HEW) crossing from Queensland to NSW and within Menindee Lakes has prevented the achievement of improved environmental outcomes through the use of water purchased by the Australian taxpayer to address overextraction.

5. Failure to use Environmental Water Requirements for more than guiding use of HEW Environmental Water Requirements (EWRs) should be used to to indicate adequacy or otherwise of Water Management Plans. It is patently obvious the purchases of HEW in the Northern Basin and use of that water can do little to achieve EWRs in the Barwon and Darling/Baaka, including Lower Darling/Baaka, unless there is more change in management of flows in the tributaries to improve connectivity in timely ways.

6. Failure of NSW to deliver Water Resource Plans (WRPs)

The lack of strong regulatory powers or penalty provisions has enabled the NSW Government to fail to deliver WRPs as required by 2019. The lack of accredited NSW WRPS has prevented the Inspector General from monitoring for compliance with SDLs five years after the requirements of the Basin Plan.

We are pleased that MDBA did not "rubber stamp" the WRPs when they were delivered as they were grossly deficient. We remain concerned that some key aspects of NSW WRPs are inadequate and will fail to enable Basin Plan objectives to be met.

The lack of compliance in the Barwon-Darling/Baaka in 2019-2020 under the bilateral agreement was fixed through manipulation of the river model rather than causing the overextracted water to be returned to the river.

7. Failure to implement the Constraints Management Plan

Removing constraints on delivery of HEW in the Southern Basin has been prevented through political activity and misinformation. Placing the delivery of this critical implementation in the control of State Governments has caused it to fail. Including constraints management as a SDLAM project is also problematic and was made on budgetary considerations rather than any scientific evidence.

Operational constraints and dam management policy are still preventing the best use of HEW for essential environmental outcomes.

8. Floodplain Harvesting accounting and modelling

While the Basin Plan was being implemented new access licences were granted for harvesting overbank flows and rainfall runoff in the NSW Northern Basin. These locked in unsustainable water extraction to the detriment of downstream water users, communities, groundwater sources, cultural values and river health.

The modelling used to justify this wealth redistribution was highly questionable with major issues identified in independent model reviews.

9. Failure to improve First Nation access to water

Consultation with First Nations people has been less than adequate. The cultural connectivity to land and water has been given recognition only through lip service and not tangible outcomes on the ground. The lack of cultural water in WRPs is a failure of Basin Plan implementation.

Q2. What has worked well?

1. Better focus on connectivity

While there is still a long way to go, the recognition of connectivity between the Northern Basin and Southern Basin is heading in the right direction. Also the improved recognition of the importance of connectivity with floodplain, wetlands, groundwater and the headwaters of the Basin to the sea. The challenge now is to better align WRPs so that they improve connect lateral, longitudinal and vertical connectivity.

2. Learnings by Commonwealth Environment Water Holder (CEWH)

The improved use of HEW over time to co-ordinate flows over multiple valleys has created better outcomes for environmental health and improved connectivity.

3. More transparency and consultation

Regular reporting requirements, establishment of regional engagement officers, regional tours by MDBA Chair & CEO have improved contact with communities and environmental advocates on the ground. The establishment of a broad representation of stakeholders on the Peak Bodies consultation process with regular information and process updates has provided a good opportunity for discussion and feedback.

The five year progress review process by the Productivity Commission has provided useful recommendations and opportunities for community input. The MDBA six monthly report cards have been a useful source of information, as has the updated water website managed by the Bureau of Meteorology.

The establishment of the independent role of the Inspector General to oversee compliance has been a good outcome after the exposure of unmanaged water theft occurring in the Basin.

4. NSW was persuaded to not walk out entirely from implementation of the Plan by the financial penalty that would have entailed.

Q3. Did anything unexpected happen?

1. 1500 Cap on buybacks

This prevented the achievement of Basin Plan outcomes in a timely manner. The cessation of the voluntary buyback program before the Cap was met denied willing sellers from accessing public investment for river health outcomes.

2. Floodplain Harvesting assessment process

The MDBA announced that the assessment and licencing of floodplain harvesting in five NSW Northern Basin valleys would not include any increased protection for the environment.

The decision to tie the modelling for the Base Diversion Limit (BDL) to the SDL in the NSW Northern Basin rivers caused the SDLs to be raised in all five catchments with no assessment of environmental, cultural and social outcomes and no reference to SFIs.

The granting of a 500% carryover limit to newly granted floodplain harvesting access licences has caused a major shift of wealth to upstream water users from communities on the floodplain and in downstream river reaches. The impact of these decisions on connectivity with the Darling/Baaka and Southern Basin has not been assessed while the ongoing ecological collapse and major fishkills demonstrate a failure to address over-allocation and poor water sharing arrangements in the Northern Basin.

3. ‘Over-recovery’ assessment

The purported assessment of 'over-recovery' of water for environmental outcomes in the Macquarie and Gwydir Valleys, both supporting Ramsar listed wetlands, is based on model manipulation and biased accounting methodology.

The manipulation of shared reduction targets to change SDLs and manipulation of 'Cap Factors' not replicated across all valleys is a very poor, unscientific process that has led to biased outcomes. This is particularly evident for outcomes in the Macquarie River.

The Ramsar wetlands are not demonstrating overall improvement through Basin Plan water management. Their response to the significant flood events between 2020 – 2022 has given some respite and improved resilience. However, water availability during long dry sequences is not sufficient to maintain the values of these significant wetland areas.

There is no ecological evidence that the Macquarie and Gydir valleys have had too much water recovered. This accounting outcome has been achieved through model manipulation and 'cooking the books'.

Both valleys have been granted significantly large access to floodplain flows through the floodplain harvesting licencing process. The access permitted is far in excess of that which occurred in the period supposedly used as a basis for defining limits on diversions. This new provision of water access has offset any perceived 'over-recovery' of water for the environment.

4. Lack of recognition of drought sequences in WRPs

Rules for assessing long term water availability in Northern NSW WRPs fail to account for the most recent drought of record in modelling.

5. The rapid development of permanent plantings in Southern Basin

The unregulated growth of the almond industry first introduced as managed investment schemes occurred with no consideration of water supply constraints. The delivery of increased downstream water demand in the Southern Basin has caused greater environmental impacts through higher levels of Inter-Valley Transfers, especially in the Goulburn valley. These impacts have been conflated as being caused by much smaller volumes of HEW release and have impacted on some of the beneficial outcomes of HEW delivery.

6. Continuation of river operations constraining improved environmental outcomes

Storages are still managed to maximise water availability for licensed extraction with rules preventing improved environmental management. This caused major environmental and social damage when storages were rapidly lowered during the 2022 La Nina flood events, even though these high rainfall events had been predicted. It also meant that insufficient water was stored for social and environmental needs during protracted droughts, notably where the drought of record was not used as the basis of determining what to exclude from availability (e.g. Macquarie).

The lack of small/medium overbank flows in between dry conditions and wet conditions, especially in the Lower Darling and Lower Murray is still an outstanding environmental problem caused by the lack of adaptive storage operational rules.

NSW's ongoing failure to implement its North West Unregulated Flows policy (except for a few years from 1992) allowed extraction of natural inflows to regulated tributaries that should have achieved environmental benefits in the Barwon-Darling.

7. Failure of the MDBA to demonstrate independence

The political influence on MDBA decision-making and management of the Basin, particularly with modelling issues, SDL decisions and floodplain harvesting outcomes has demonstrated a lack of independence.

Q4. What/where/how could we do better?

1. Transparent auditing and accounting of water recovery

It is critical that a fully transparent audit of current water recovery through purchase of a wide range of water licence reliability factors and through efficiency measure, including calculation of loss of return flows is conducted as part of the evaluation of Basin Plan 1.

2. Transparent modelling processes

There needs to be more open access to MDBA modelling processes in all aspects of Basin management

3. Changes to storage operation rules and interstate agreements

The MDBA agreement for Menindee Lakes operation and state water shares needs to be reviewed. Operational rules for storages also need reviewing to improve adaptive management to take advantage of environmental opportunities through water releases at critical times.

4. Strong penalties for failure to meet deadlines

The failure of the NSW Government to develop and submit accreditable WRPs in a timely manner needed to be managed under a stricter process of penalty. This also applies to other processes such as the SDLAM projects and Constraints Management Plan.

Funding to state governments to deliver projects must be tightly managed through milestones and timelines with penalties to regulate mandatory requirements.

5. WRPs must improve connectivity through end of system flow targets

Currently the accredited WRPs do not have a requirement to connect with downstream water sources. Improvement in achieving Basin Plan targets can only be implemented when the various plans, including long-term water plans, are combined to enhance connectivity outcomes laterally, longitudinally and vertically.

The next Basin Plan must establish a template for updated WRPs to enable a consistent approach across all Basin States to facilitate improved connectivity and protection of water for river and wetland health.

WRPs must include rules to conserve a drought contingency water supply in all Basin storages.

6. Genuine engagement with First Nations communities

Investment in better engagement with First Nations groups and people is essential for inclusive outcomes and improved understanding of the needs and aspirations of people with an intrinsic cultural connection to place.

Conclusion

IRN appreciates the opportunity to provide these comments for consideration in the Basin Plan evaluation work undertaken by the MDBA. While the first Murray–Darling Basin Plan established a way forward to adjust the over-allocation of water to extractive industries, we consider there is still a long way to go to restore some resilience to water sources and their dependent habitats and native species. The challenge of managing a highly variable climate exacerbated by climate change requires a stronger commitment to adaptive management.

IRN looks forward to participating in the next steps to adopt improvements in water sharing arrangements through the next iteration of the Basin Plan development process.

For more information contact IRN at: inlandriversnetwork@gmail.com
[redacted]

Yours sincerely,

[redacted]

[redacted]
President

Inquiry into the Water Amendment (Restoring our Rivers) Bill 2023

Submission by Environment Victoria, Nature Conservation Council of NSW, Conservation Council of South Australia and Queensland Conservation Council

Introduction

The *Water Amendment (Restoring our Rivers) Bill 2023* provides an essential intervention to enable the delivery of the *Basin Plan 2012* (Cth) (**Basin Plan**). Perhaps most notably, it allows the Australian Government to, once again, use straightforward, cost-effective water purchases to set water aside for the rivers of the Murray–Darling Basin.

This is a necessary precondition for delivering the Basin Plan's most prominent objectives: its two water recovery targets. This includes 2750 GL (billion litres) to reduce historical over-extraction and 450 GL to offer a lifeline to the wider floodplain, including several internationally significant wetlands.

Progress toward these targets has been slow over the past decade because straightforward water purchases were not an available instrument. The alternative, water saving infrastructure, proved far less effective due to drawn-out timelines, exorbitant cost and few remaining savings to be found.[4]

But while allowing reliable procurement mechanisms is necessary to recover more water, it is not sufficient to ensure the protection and restoration of Australia's largest river system – as the *Water Act 2007* (Cth) (**Water Act**) aims to.[2]

For example, on 1 July 2019, new diversion limits came into effect. Across 7 Basin catchments, 49.2 GL was due to be recovered to correct overallocation. Basin States were also required to prepare plans to ensure compliance with these limits. This water could have been purchased without encountering the legislated limit on buybacks. The Murray – Darling Basin Authority (**MDBA**) had

[4] DCCEEW, 'First Review of the Water for the Environment Special Account,' pp 21-22. [2] *Water Act 2007* (Cth) s 3(d)(ii).

clear power to 'step in' and conditions triggering their intervention to prepare the overdue plans.[5] Despite legislated requirements, available instruments and step-in powers, the deadlines passed.

Basin governments and institutions have had the power they need to deliver much of the Basin Plan. Yet policy remains 'locked in' to inadequate approaches, significantly constraining Basin Plan implementation and prolonging the 'high cost and contested nature of Australia's water reforms'.[6] Without new incentives and disincentives, there is no reason to believe legislated deadlines and step-in powers are sufficient to change the present state of affairs.

Beyond the failure to deliver the express objectives of the Water Act, participating governments have also perpetuated damage by omission. This has been most evident in the neglect of First Nations water rights. While some institutions have taken steps.

Recognising Indigenous cultural rights, obligations on government must be clarified to respect sovereignty and territorial integrity.

This submission outlines additional accountability measures and assurance mechanisms on these two themes – ensuring the delivery of the *Water Act's* objectives and clarifying the duty to act, avoiding further damage by omission. This includes mechanisms to:

1. **Return water rights to Traditional Owners**, enabling each Nation to exercise their custodial responsibilities to care for the river system.

2. **Ensure timely and reliable water recovery,** recognising the slow progress acquiring water over the past decade and the opaque systems currently used to track progress.

3. **Realise the benefits of water recovered,** relaxing constraints on water delivery that keep water from supporting wetlands.

4. **Phase out failed experiments,** shelving controversial offset programs which claim to substitute flowing water.

5. **Fund community adaptation,** addressing economic issues thoughtfully and directly.

We would welcome the opportunity to speak further on these topics at the inquiry hearings.

For further information on this submission, please contact:

[redacted]

---

[5] *Water Act 2007* (Cth) s 68.

[6] Marshall and Alexandra, 'Institutional Path Dependence,' p 698.

On behalf of the Murray–Darling Conservation Alliance

Table of Contents

Scope of submission

The *Water Amendment (Restoring our Rivers) Bill 2023* proposes several measures to enable the delivery of the Basin Plan. While some of these changes are discrete, others are deeply intertwined with other provisions of the Water Act. This submission provides suggestions for specific provisions, broader changes, policy settings and program commitments which support the aims of the amendment to implement the Basin Plan in full.

Interrelated provisions

For example, the bill would allow funds allocated through the Water for the Environment Special Account (**WESA**) to be used to recover water through open tender rounds. This change is fairly straightforward.

On the other hand, the bill would allow new held environmental water (**HEW**) entitlements to contribute to the same 450 GL target (s 7.08B). This provision carries risks: how are these entitlements to be defined? How will they be protected? In this case, claimed 'over recoveries' can contribute to the target. Similarly, this provision carries risks: how are they calculated? Will these calculations be revisited?

One approach might focus on stronger definitions of discrete provisions, in this case, s 7.08B. But this commentary would fail to recognise the bigger picture: the risks that would mark new provisions already undermine existing efforts.

In other words, rather than suggest proposals to make new provisions air-tight, we have chosen to suggest proposals which would rebuild confidence and trust for both new and 'completed' water recovery efforts. In the case of new HEW entitlements, they are at risk of being over-estimated because of opaque accounting and modelling. But all water recovery to-date is at risk of being over-estimated because of opaque accounting and modelling.

Omissions

Other recommendations, as discussed above, are intended to address damage that has been perpetuated by omission. This has been most evident in the neglect of First Nations water rights. It is also evident in the neglect of updated climate predictions, and best available science, in the development of the Basin Plan.

These amendments propose delaying the *Water Act* review until 2027, ostensibly to ensure focus remains on the delivery of the Basin Plan – with many of its requirements delayed until 2026.

There have been numerous reviews, including those by the Royal Commission and Productivity Commission, which have highlighted the need for these structural reforms. There is no compelling reason why their implementation should be delayed until the 2027 review, particularly when delay will perpetuate additional damage.

Delivery of stated objectives

Finally, it should be acknowledged that the Basin Plan, which began as a bipartisan project, has long been limited by what is politically acceptable. Instead of being bound by the requirements of the Water Act, the Plan has been reduced to what can be achieved through political consensus, the lowest common denominator to survive political tensions and interstate rivalries.

These amendments are nested within this larger institutional context. Immediately, they sit within a package of Basin reforms – being the deal announced by Basin ministers in August. The 'Agreement of Murray–Darling Basin Ministers to Deliver the Basin Plan in Full' is, in turn, inset within the bounds and ambitions of Labor's five-point plan for the Murray – Darling Basin, released April 2022.

These recommendations take these policies at face value. For example, the first point of Labor's election promises commits to 'Working with Basin governments and stakeholders to deliver on water commitments, including the 450 GL of water for the environment.' The intergovernmental agreement aims to deliver this water by bringing 'all options on the table, including water purchases.' The amendments aim to deliver this promise with provisions to delay deadlines, remove limitations on purchases, allow new water products and add an additional independent review of progress.

If other elements of the Basin Plan provide any example, these provisions are insufficient to deliver the stated objectives. In these cases, we have provided recommendations for interrelated amendments and policy settings to deliver stated objectives.

Recommendations

Where possible, we have provided section numbers for potential amendments and sought to distinguish between recommendations for interrelated amendments, to be addressed in this review, and policy settings necessary to deliver stated objectives.

These policy settings, and broader programs, could be committed to in the course of these amendments or – at minimum – committed to in the lead-up to and terms of reference for the Water Act review.

Recommendations

Return water rights to Traditional Owners

1. **Proposed amendment.** Amend the objects (s 3) of the *Water Act* and general basis on which the Basin Plan developed (s 21) to explicitly recognise and promote the rights of Traditional Owners, including UNDRIP in the definition of relevant international agreements (s 4).

2. **Proposed amendment.** Update the basis for the development of the Basin Plan, including environmental watering and other plans (s 21) to require the MDBA and Minister to act consistently with the rights and interests of Traditional Owners. Further, require the MDBA and Minister to consider, and act on the basis, of First Nations water knowledge and cultural science.

3. **Program commitment.** The delivery of cultural flows and management of water in its broader cultural landscape should be reviewed. This process should progress as a priority, prior to the Basin Plan review and the review of the *Water Act*.

4. **Proposed amendment.** Amend WESA to direct any surplus (s 86AH) to be applied for the benefit of First Nations rather than returned to the Consolidated Revenue Fund. Ensure that any combined land and water purchase is held and managed by First Nations or their nominated representative organisations, permitting the use of funds to deliver cultural flows (s 86AD).

5. **Proposed amendment.** Require SDLs to meet First Nations cultural objectives and watering requirements (s 23(1)) and require WRPs to include a program for the design and delivery of cultural flows, sufficient to improve the spiritual, cultural, environmental, social and economic conditions of First Nations.

Ensure timely and reliable water recovery

6. **Proposed amendment.** Additional measures (s 86AD), repeal of the purchase cap (s 85C) and an additional WESA review (s 86AJ) are insufficient. Add requirements to define quarterly milestones for water recovery and report quarterly on water recovery progress to the Department's existing reporting requirements (s 86AI). These reports from DCCEEW should be incorporated into the MDBA reporting process.

7. **Proposed amendment and program commitment.** Amend sections crediting water to WESA (ss 86AC, 86AG) and pending project agreements to utilise tranche funding for both Commonwealth recovery and Basin State programs, disbursed upon successful completion of project milestones. This should be subject to report recommendation, by the Inspector-General or an independent auditor (proposed new requirement in s 86AJ on WESA reporting and s 135R relating to audits), assessing the delivery of interim objectives.

8. **Proposed amendment.** To prevent persistent problems from impacting new purchases (s 86AD), establish an independent commission to oversee water purchases. The commission

should provide oversight of water valuation and assess the relevance of water rights to environmental requirements. This may operate as an intermediary or draw upon SDL compliance reporting functions (s 71), entitlement history and valuation (proposed new s 77A), functioning as an independent review group similar to those established in the Murray–Darling Basin Agreement (Schedule G, cl 29; Schedule F, cl 14).

9. **Program commitment.** Additional measures (s 86AD), repeal of the purchase cap (s 85C) and an additional WESA review (s 86AJ) and other reforms may prove insufficient to ensure the recovery of 450 GL. Implement the recommendation by the Royal Commission to re-determine the ESLT, on the basis of the best available scientific knowledge, such that the 450 GL target becomes redundant, incorporated into the Basin-wide resource unit SDLs.

10. **Proposed amendment.** Amend the *Water Act* to provide for open or third party standing to ensure beach of the Act can be remedied. This may require a new section on remedy or restraint of breaches of the Act.

11. **Proposed amendment.** Water recovered toward the 450 GL may vary over time, requiring assessment and conversion into a common unit (proposed new s 7.16A). Improve Sustainable Diversion Limit (SDL) accounting. Information should be kept on model runs to recreate and independently assess them. Controls which preserved the rigour and integrity of Cap models should be applied to the SDL. This may require several changes to the *Water Act* (such as s 23A), the Basin Plan (such as s 6 and Schedule 3) and may draw on Schedule E of the Murray–Darling Basin Agreement.

12. **Proposed amendment.** Considering challenges that may arise from accounting for new contributions (proposed new s 7.16A), require independent auditing of LTDLE or Cap factors. Claimed 'over-recoveries' should not contribute to the 450 GL target without a comprehensive review of SDL models and accounting. This could be included in the new Inspector-General functions (proposed new s 135R) and modelled on the work of the Independent Audit Group (**IAG**) (Murray–Darling Basin Agreement, Schedule E).

13. **Proposed amendment and program commitment.** Proposed changes for SDL compliance (Part 4, Division 1) do not sufficiently overcome water information problems. Conduct a water resource assessment to develop a better picture of water use and availability. This should lead to double-entry water accounting:

    where credits (inflows) equal debits (extraction, evaporation and other losses). This is necessary to provide consistent and reliable information to underpin the protection of water recovered for the environment. These functions could be outlined in Part 7 of the *Water Act*, outlining water information and publishing of water accounts.

14. **Proposed amendment.** Confer a duty on the Inspector-General to conduct audits and publish reports, rather than a discretion (s 135R). Require Basin States to respond to guidelines and action plans under the Basin Plan rather than having regard to them (s 6.08). Provide standards for what constitutes a 'reasonable excuse' for exceeding permitted take by more than 20%, to enhance accountability.

15. **Proposed amendment and program commitment.** Considering challenges that may arise from accounting for new contributions (proposed new s 7.16A), preclude unreliable water recovery products until a broader assessment of water access rules is completed. Rules-based water recovery is easily subject to change by Basin States and depends on consistent Water Resource Plans. It is unclear whether the amendment proposes incorporating a range of water products as additional HEW entitlements. This may require amendment to the process by which water becomes Held Environmental Water (proposed new 7.08B).

16. **Program commitment.** Bring forward the CSIRO Sustainable Yields Project to assess the water in the system and how connectivity is likely to be impacted in a hotter, drier climate.

17. **Program commitment.** Conduct a stocktake of strategic water recovery opportunities. Voluntary compensated projects decommissioning irrigation infrastructure or supporting industry restructure may minimise third party impacts while allowing for the acquisition of larger volumes of water over shorter time periods.

Realise the benefits of water recovered

18. **Proposed amendment.** The proposed constraints relaxation implementation roadmap (s 7.08A) is insufficient to deliver the program. Add to this section the requirement for a review, appointing a panel of independent experts to find a workable pathway to constraints relaxation. This should include consideration of a wider range of options for landholders to participate, including time-limited easements and voluntary land purchases.

19. **Proposed amendment.** To deliver the constraints program, extend the proposed roadmap (s 7.08A) to a requirement for the Commonwealth to establish and maintain a fund to quickly respond to and manage unexpected outcomes for private landholders.

20. **Proposed amendment**. Proposed delivery of constraints remains at 31 Dec 2026, two years after the completion of the roadmap (s 7.08A). Further amend s 7 to set a deadline for agreements after which compulsory acquisition of easements should be undertaken. The Commonwealth should oversee the compulsory acquisition of land

    in accordance with the Commonwealth Procurement Rules.

21. **Proposed amendment.** Give the CEWH and MDBA the mandate to operate. Allow the MDBA and CEWH to develop plans and deliver water at flow rates identified in the Constraints Management Strategy (s 30). Allow for the use of water for the environment to inundate private land (s 110).

Phase out failed experiments

22. **Proposed amendment and program commitment.** Time extensions should not be permitted for all supply measures (s 7.11). Amend s 7.12 and immediately withdraw funding from failing or stalled supply measures projects and commence water purchases in target valleys.

23. **Proposed amendment and program commitment.** Amendments concerning the reconciliation framework (s 7.15) allow BOC to consider another method. This should be further amended, to require updating the method, improving the reconciliation framework and process to ensure the supply contribution achieves equivalent outcomes. This should incorporate empirical evidence from implemented projects, accounting for environmental risks (e.g., salinity and blackwater), likely impacts of climate change and water availability on the ability to deliver stated outcomes, and an assessment of negative impacts from the offset on the wider floodplain. This updated framework should be reviewed by an independent expert panel.

24. **Proposed amendment.** New supply measures should not be permitted (s 7.12). Amend the section to prohibit additional supply measures which will divert resources and funds away from completing the constraints relaxation program and other projects intended to deliver flows for the benefit of the environment.

Fund community adaptation

25. **Program commitment.** Conduct an inquiry to disentangle the factors that characterise the perceived impact of water recovery. This includes the impacts of water reform (unbundling and financialisation of water rights), the Basin Plan (water purchase and adaptive management) and broader challenges (climate change risk, commodity prices, trade sanctions, mechanisation). Identify structural obstacles to reliable employment, income, education, decent housing and a high standard of living – and pathways toward diverse, resilient economies.

26. **Program commitment.** Establish a transition fund to assist impacted regional and rural communities with climate change adaptation.

Background

In 2007, at the peak of the Millennium Drought, then Prime Minister John Howard moved to assume responsibility for the deteriorating health of the Murray–Darling Basin (**the Basin**).

> *This is the Commonwealth assuming responsibility for a problem created by the states. We are willing to address the chronic overallocation of water in the Basin and to carry the entire cost of doing so…*
>
> *All parties must recognise that the old way of managing the Murray–Darling Basin has reached its use-by date. The tyranny of incrementalism and the lowest-common denominator must end.*[7]

The *Water Act* aims to protect and restore the Basin in the national interest.[6] The values of the Basin extend well beyond the channel of the two rivers. The Basin consists of 77,000 kilometres of rivers and streams covering more than 14% of the continent. It contains over 6.3 million hectares of wetland ecosystems, several of which are afforded protection under international law.[8] It is home to 286 listed threatened species that depend on a reliable rhythm of flows.[8] These ecosystems have adapted to the cycle of drought and flooding rains over millennia, attracting migratory birds that travel from as far as Siberia to rest and feed in these unique wetlands.

It is a landscape that more than 40 First Nations have cared for over tens of thousands of years, and it that time did not damage the Basin in the way that settlers have in the last 250. More than three million people now live in and rely on the Basin for their livelihoods – and millions more are connected to the rivers and wetland through tourism and outdoor recreation. But decades of mismanagement and taking too much water has resulted in rivers running dry, toxic algae blooms, blackwater events and massive fish kills – attracting international attention for all the wrong reasons.

The Water Act

The *Water Act* and Basin Plan sought to correct decades of historical over-extraction. *The Water Act* begins by recognising explicitly that the rivers of the Basin are over-allocated and overused.[9] The fundamental tool it provides to address the problem is a scientifically assessed limit on the water that can be taken from rivers – set at a level that does not compromise the Basin's environmental values. This is an environmentally sustainable level of take (**ESLT**) reflected in a sustainable diversion limit (**SDL**) that caps extraction.

This approach recognises that protecting and restoring freshwater ecosystems depends on restoring variable flows. These are the regular, smaller floods in winter and spring that provide connectivity

---

[7] Howard, 'Address to the National Press Club.' [6] *Water Act 2007* (Cth) s 3(d).

[8] Chen et al, 'A trickle, not a flood: environmental watering in the Murray-Darling Basin,' p 616. [8] Ryan et al, 'Flow to nowhere,' database based on selection criteria.

[9] *Water Act 2007* (Cth) s 3.

and diversity in a riverine landscape. The river rises, spreading out across the floodplain through networks of flood-runners, filling billabongs and wetlands. The water sits, seeps, evaporates and returns to the channel, responding to the subtle topography of the landscape. These subtle variations are responsible for the mosaic of vegetation and habitat on the floodplain. This rhythm of flows (**flow regime**) provides cues for native fish movement, allows species to migrate into wetlands, attracts waterbirds to the wetlands to nest and breed, and eventually returns organic matter to the channel – the carbon that drives life in the river.

In a highly modified system regulated with dams and weirs, reducing extraction is not enough to restore connectivity and a natural flow regime. Instead, the approach relies on a 'designer flows paradigm'. This means that components of natural flow variability – like flood duration at a certain time of year – are 'assembled' through the strategic use of water that has been set aside for the environment.[10]

While the definition of environmental flows was initially based on the requirement for minimum low flows, it now includes several strategies for active management. For example, water that has been set aside for the environment can be used to augment releases from dams to create more-variable 'pulses,' or it may be 'piggy-backed' on top of natural stream flows to mimic larger natural events.[11]

The *Water Act* reflects this understanding. When rivers are grossly over-allocated, there is not enough water to maintain wetlands and rivers. Protecting these ecosystems requires simultaneously dialling back extraction from the historical baseline and protecting that water for environmental use. This water reserve can be used toward achieving passive components of the flow regime, like minimum flows, as well as more active management strategies, like pulses to mimic the timing, duration, and frequency of natural floods.

Flawed determination of targets

The quantity of water needed to deliver these outcomes reflects the difference between the historical baseline of extraction, the Baseline Diversion Limit (**BDL**) and the lower, more sustainable limit (**SDL**). This is the **water recovery target**, which was set at 2750 GL. But because this target is insufficient, these components of the flow regime cannot be delivered.

It is well-established that in determining the Basin-wide ESLT, the MDBA 'failed to act on the best available scientific knowledge'.[12] The Guide to the proposed Basin Plan (2010) recommended water recovery in the range of 3000-7600 GL to protect biodiversity.[13] The

lower bound represents a 'high-uncertainty target' – the boundary 'beyond which there is a high likelihood that objects and targets will not be achieved'.[14]

[10] Acreman et al, 'Environmental flows for natural, hybrid and novel riverine ecosystems,' p 468.
[11] Stewardson and Guarino, 'Basin-scale environmental water delivery,' p 971.
[12] Walker, 'Royal Commission Report,' p 54.
[13] MDBA, 'Guide to the proposed Basin Plan: Technical background,' p 115.
[14] Ibid., p 98.

The water recovery target was set without incorporating available data for climate impacts and was readily acknowledged as being insufficient to maintain key environmental assets and ecosystem functions that should characterise an ESLT.[15]

Gradual unravelling of targets

Over the past decade of Basin Plan implementation, the water recovery target has become increasingly convoluted and reduced in what has been characterised as a 'step-down effect,' the 'steady reduction in the volume of water to be returned from irrigators to the environment'.[16]

The 'step-down effect' was possible because the process has been subject to undue pressure from Basin States. This is due in part to the limited referral of power which brought components of the Water Act into force. While giving the Commonwealth the ability to act, it also provided Basin States the option to revoke that referral throughout the development of the Basin Plan. This threat has consistently been deployed to leverage concessions and delays.[17]

The development of water recovery targets was meant to be insulated from Ministerial influence and based on the best available science. But the process has proven to be neither transparent nor replicable. Instead, it was communicated repeatedly as a deal that had been negotiated by Basin States.[17]

Ecological consequences of delay

After years of delay, the MDBA has provided advice that the full implementation of the Basin Plan is not possible by June 2024.[18] But it is essential not to view this deadline elastically. River Red Gum forests require floods at least every three years for maintenance. Black Box woodlands require flooding every three to seven years for growth and flowering.[19]

Despite two successive La Niña years, waterbird populations have continued to significantly decline. 41% of wetlands observed in the extensive Eastern Australian Waterbird Aerial Survey supported no waterbirds,[20] while the total population has fallen by

---

as much as 90% in the last four decades.[21] Native fish populations have declined by more than 90% in the past 150 years,[22] while no adult Murray cod were detected in a recent comprehensive monitoring survey of the lower Darling (Baaka).[23]

---

[15] Young et al, 'Scientific Review of the Estimation of an Environmentally Sustainable Level of Take,' p 28.

[16] Lyons et al, 'Towards a scientific evaluation of environmental water offsetting,' p 265. [17] Environment Victoria, 'Debasing the Basin Plan,' p 5.

[17] Ibid., p 11.

[18] MDBA, 'Authority response to the Minister's request for advice,' p 2.

[19] Roberts and Marston, 'Water regime for wetland and floodplain plants,' pp 15, 49.

[20] Porter et al, 'Eastern Australian Waterbird Aerial Survey,' p 2.

[21] Casben, 'Waterbird population has fallen as much as 90 per cent in Australia's east, shows 37year study.'

[22] Morton and Readfearn, 'State of the environment.'

[23] NSW DPI, 'Preliminary report into the 2023 fish deaths in the Lower Darling-Baaka River,' p 7.

The growing pressure of climate change will bring further hydrological stress: 'the restoration and management of hydrologically diverse flow regimes is essential to support flow-dependent ecosystems'.[24]

Return water rights to Traditional Owners

The Basin is the ancestral domain for over 40 First Nations, but colonisation has left them with few rights over land and water.[25] The overallocation of the Basin and the bureaucratic control of the river are anchored in 'an ideology of domination of nature, inspired by colonial hydraulic feats' and predicated on the ongoing dispossession of First Nations.[26]

The consolidation of water resources and insulation of decision-making are deeply related – 'the ways flows of water are created or modified by water infrastructure are intertwined with flows of power and influence'.[27] The political and financial influence that has been accumulated in the water sector has been accumulated by dispossession – in a process that further damages Country, disempowers Traditional Owners in water management and denies them a share of the wealth made from their land. Until we address this history, any pursuit of reconciliation will remain out of reach.

Legal and policy reforms are needed to ensure First Nations Peoples have rights and can exercise their moral obligation to care for water under their law and customs. These reforms may be conceptualised within three tiers, or approaches[28]:

1. **Transforming the foundations of water governance,** putting First Nations at the centre of water management.

2. **Increasing First Nations influence over water landscapes,** including when and how water is released and how that water is protected.

   Water rights for First Nations, strengthening control and decision-making over surface and groundwater.

Transforming the foundations of water governance

Cultural flows have been defined as water available 'to each Indigenous Nation to enable them to exercise their custodial responsibilities to care for the river system'.[29] Beyond water allocations, cultural flows depend on supporting foundations: governance frameworks, management structures and guiding principles that put First Nations at the centre of water management – honestly

[24] Thiem et al, 'A protected flow breaks the drought for golden perch,' p 2.
[25] Hartwig, 'Trends in Aboriginal water ownership,' 1.
[26] Molle, 'Hydraulic Bureaucracies and the Hydraulic Mission,' p 328.
[27] Ibid., p 336.
[28] MLDRIN et al, 'A Pathway to Cultural Flows in Australia,' p 6.
[29] Jackson and Morrison, 'Indigenous Perspectives in Water Management,' p 31.

acknowledging self-determination. For many First Nations, this may require treaty or political agreements.

In its current form, the *Water Act* fails to further these interests. Traditional Owners have called for involvement in policy and decision-making as well as direct involvement in the management of rivers and Country. This is more than consultation – it means ensuring no decisions directly related to First Nations rights and interests are taken without their informed consent.[30]

International instruments like the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), endorsed by the Australian Government in 2009, are a powerful way to ensure these key principles inform law and practice. UNDRIP sets out global rights and standards for the realisation and protection of self-determination.[32]

The *Water Act* must give effect to the UNDRIP principles to improve First Nations' recognition, procedural and substantive rights and import the legal standard of free, prior and informed consent in decision-making frameworks.

The *Water Act* primarily respects the Commonwealth's external affairs powers, outlined under s 51 (xxix) of the *Constitution*. In effect, it implements Australia's treaty obligations and various bilateral agreements. These include the Ramsar Convention, the Biodiversity Convention, the Climate Change Convention and other relevant international agreements.[33] The same external affairs power can be relied upon to make these amendments.

Recommendation 1. Amend the objects (s 3) of the *Water Act* and general basis on which the Basin Plan developed (s 21) to explicitly recognise and promote the rights of Traditional Owners, including UNDRIP in the definition of relevant international agreements (s 4).

Increasing First Nations influence over water landscapes

The *Water Act* sets weak standards for First Nations participation in decision-making. In most instances, they compel Basin States and the MDBA to 'have regard' to the views of Indigenous people. This is the weakest level of obligation – it does not require further outcomes or actions,[31] nor does it require supporting documents, as required for other water planning, demonstrating that requirements were met.[32]

[30] Morgan, 'Indigenous Rights to Water in the Murray-Darling Basin,' p 6. [32] Davis, 'Indigenous Struggles in Standard-Setting.' [33] *Water Act 2007* (Cth) s 4.

[31] MDBA, 'Basin Plan Water Resource Plan Requirements Position Statement 1B,' p 1.

[32] MDBA, 'Basin Plan Water Resource Plan Requirements Position Statement 6A,' p 1.

In the South Australian Royal Commission into the Murray–Darling Basin Plan (**Royal Commission**), it was recommended that the *Water Act* should be amended to remove the words 'having regard to'.[33] The Commissioner found the requirement creates a 'clear

danger' by avoiding 'any procedure requirements or safeguards, or creating any obligation to give any weight to the views expressed'.[34]

This consultation requirement has been primarily directed toward Basin States and the MDBA in the development and assessment of Water Resource Plans (WRP). These sit within a larger framework, locking in rules and coordinating the planning and delivery of water for the benefit of the environment. State WRPs protect water for the environment and provide for the use of water in a way that is consistent with larger strategies.

The planning framework for these larger strategies is extensive and complex. In the long-term, WRPs sit alongside regional long-term watering plans (LTWPs) prepared by Basin States and a Basin-wide Environmental Watering Strategy (BWEWS) prepared by the MDBA to guide watering at the Basin scale. Annually, these inform annual environmental watering priorities developed by the MDBA, complimented by annual regional priorities developed by Basin States.[35]

In some Basin States, the planning framework has additional and parallel elements. For example, seasonal watering priorities are developed at the catchment scale in Victoria, informing annual seasonal watering plans developed by the Victorian Environmental Water Holder (VEWH).

This is a high-level description of planning in a larger, adaptive management cycle for held environmental water (i.e. water reserved as discrete entitlements). This cycle includes:

- **planning** where and when water should be delivered
- **decision-making** responding to water availability and site conditions
- **delivery** dependent on shorter-term weather and flow conditions
- **monitoring, reporting and evaluation** of outcomes.[36]

The settler framework for water planning requires changes to recognise self-determination and to avoid further damage to the river system. It is well recognised that 'Indigenous people have a long and deep association with water and if water is to be sustainable managed in Australia, Indigenous people require a seat at the water planning table'.[37]

Recommendation 2. Update the basis for the development of the Basin Plan, including environmental watering and other plans (s 21) to require the MDBA and Minister to act

[33] Walker, 'Royal Commission Report,' p 73.
[34] Ibid., p 488.
[35] MDBA, 'Basin-wide environmental watering strategy,' p 73.
[36] Productivity Commission, 'National Water Reform: Water entitlements and planning,' p 49.
[37] Moggridge and Thompson, 'Cultural value of water and western water management,' p 11.

consistently with the rights and interests of Traditional Owners. Further, require the MDBA and Minister to take into account and act on the basis of First Nations water knowledge and cultural science.

A more comprehensive framework is required for genuine First Nations involvement in environmental water management and planning. For example, the Victorian Government is developing guidelines for Traditional Owners to submit watering proposals directly to the

VEWH.[38] In a report commissioned by the MDBA, other recommendations proposed amendments to overall environmental objectives to incorporate Indigenous ecological values and to disclose the methodology taken to give effect to consultation requirements – ensuring transparency and consistency in the treatment of First Nations input.

On the BWEWS, the Productivity Commission recommended the inclusion of an objective that environmental watering should seek to contribute to cultural outcomes.[39] Some work has been undertaken by the MDBA and Commonwealth Environmental Water Holder (CEWH) – the First Nations Environmental Water Guidance Project – to ensure First Nations people are involved in decision-making and their objectives are included in water planning. Some Basin States have included First Nations values in LTWPs,[40] some have included notably less substantive input.[41]

Efforts to include values, objectives, targets and requirements relevant to First Nations have been inconsistent and opaque. There is no shortage of First Nations-led research, including the Aboriginal Waterways Assessment (AWA) process, which provides direction for more genuine consideration of First Nations interests and ownership by First Nations people in the adaptive management cycle of environmental water. Similarly, watering plans like the partnership between Nari Nari Tribal Council (NNTC) and CEWH at Gayini Nimmie-Caira and the cultural water management plan to establish cultural flows on Tati Tati Country provide direction for policy and governance changes required for settler institutions.[42]

Future pathways could include transferring substantive responsibilities and powers to Traditional Owner entities, developing responsive arrangements between Traditional Owner entities and water institutions, integrating cultural water planning proposals into existing instruments and supporting Traditional Owners in design and delivery of water programs.

Recommendation 3. The delivery of cultural flows and management of water in its broader cultural landscape should be reviewed. This process should progress as a priority, prior to the Basin Plan review and the review of the *Water Act*.

[38] DELWP, 'Water is Life: Traditional Owner Access to Water Roadmap,' p 10.
[39] Productivity Commission, 'Murray-Darling Basin Plan: Five-year assessment,' p 50.
[40] South Australian Department, 'Long-term environmental watering plan,' p 66-71.
[41] NSW DPI, 'Murray-Lower Darling Long-Term Water Plan,' p 31-32.
[42] O'Donnell, 'Cultural water and Indigenous water science,' p 621.

Water rights for First Nations

The value of the water market in the Murray–Darling Basin is estimated to be greater than $16.5 billion.[43] The accumulation of this water began with the erroneous assumption of *aqua nullius*, that the water belonged to no one, and accelerated with the commoditisation

of water.[44] Today, while Indigenous people represent 5.3% of the total Basin population, First Nationentities in the northern Basin hold 0.11% of available water and 0.21% in the southern Basin.[45] These holdings are valued at $18.4 million.[46]

The Australian Government's 2018 and 2019 commitments to allocate funds for water purchase have not been delivered.[47] As the figures above illustrate, these funds are insufficient to address the inequity and disparity in water holdings.

Further, while parity of population and water holdings are illustrative of water distribution, this is not to say that it is an adequate measure for water justice. As described in the sections above, cultural flows can take multiple forms – 'Cultural Flows are about water and volumes of water, but not only about water and volumes of water'.[48] Nevertheless, additional reforms can provide meaningful changes for water access and ownership.

This legislation proposes several reforms to the Water for the Environment Special Account (WESA) aimed at removing unnecessary impediments to acquiring water for the environment. These can be extended to support First Nations water access.

Recommendation 4. Amend WESA to direct any surplus (s 86AH) to be applied for the benefit of First Nations rather than returned to the Consolidated Revenue Fund. Ensure that any combined land and water purchase is held and managed by First Nations or their nominated representative organisations, permitting the use of funds to deliver cultural flows (s 86AD).

Guaranteeing water for cultural objectives can also be achieved through other instruments in the *Water Act*. For example, the ultimate control by the *Water Act* to cap extraction is the sustainable diversion limit (SDL). This limit is required to reflect an environmentally sustainable level of take (ESLT), the level beyond which key ecosystem assets and functions are compromised.[49]

While these limits have been determined as Basin-wide, long-term averages, they have also been determined at the catchment level. The Water Resource Plans (WRPs), discussed above, ensure they are enforceable.[50] This framework provides another point of intervention.

---

[43] Hartwig, 'The status of Aboriginal water holdings in the Murray-Darling Basin,' vi.

[44] O'Donnell, 'Cultural water and Indigenous water science,' p 619.

[45] Hartwig, 'The status of Aboriginal water holdings in the Murray-Darling Basin,' vi.

[46] Ibid.

[47] Burke, 'Media Release: Labor will get the Basin Plan Back on Track.'

[48] EJA, 'Margooya Lagoon: Establishing a Cultural Flows model on Tati Tati Country,' p 35.

[49] *Water Act 2007* (Cth) s 4.

[50] Hansard, 'Senate Estimates – 26 May 2023.'

Recommendation 5. Require SDLs to meet First Nations cultural objectives and watering requirements (s 23(1)) and require WRPs to include a program for the design

and delivery of cultural flows, sufficient to improve the spiritual, cultural, environmental, social and economic conditions of First Nations.

Ensure timely and reliable water recovery

The Basin Plan's most prominent objectives are its two water recovery targets. This includes 2750 GL to reduce historical over-extraction and 450 GL to offer a lifeline to the wider floodplain, including several internationally significant wetlands.

As described above, progress toward these targets has been slow over the past decade. In fact, the majority of the 2100 GL contracted to date was recovered before the Basin Plan was adopted. In the late 2000s, the Restoring the Balance program facilitated the purchase of over 1000 GL in a 'no regrets' approach, anticipating that at least as much water would need to be acquired to meet pending limits on extraction.

The pivot away from straightforward water purchases toward water-saving infrastructure corresponds with the dramatic slow-down in water recovery.[51] Water efficiency projects are slow to implement, with some off-farm projects taking more than 14 years to complete.[52] Under existing policy settings, there are diminishing returns – there are few remaining savings to be found.[53] Projects are at least 2.5 times more expensive than water purchases,[54] and if the volume of water returned to the environment is as low as some studies suggest, they could be 25 times more expensive.[58]

But governments were aware of these shortcomings well before recent reports. In 2010, the Productivity Commission advised that achieving water savings through infrastructure upgrades would prove difficult, noting that it is 'rarely cost effective' because 'most of the 'low hanging fruit' has been picked' by previous programs.[55] The report advised that funds from the infrastructure program should be re-directed, using 'the buyback program as the sole means of easing the transition' to water recovery targets.[56]

This recommendation was not adopted by the Commonwealth. In the intervening years, over $4 billion has been spent on programs which the Australian Government had been made aware were

[51] Whittle, 'Analysis of economic effects of water recovery,' p 3.

[52] DCCEEW, 'First Review of the Water for the Environment Special Account,' p 21-22.

[53] Ibid.

[54] Grafton and Wheeler, 'Economics of Water Recovery in the Murray-Darling Basin,' p 3.14. [58] Williams and Grafton, 'Missing in action: Possible effects of water recovery on stream and river flows,' p 85.

[55] Productivity Commission, 'Market Mechanisms for Water Recovery,' XXII, XXIV.

[56] Ibid., XLIX.

poor value for money.[57] Regrettably, the approach was cemented in legislation and intergovernmental policy with the 1500 GL limit on water purchases,[58]

spending limitations for the Water for the Environment Special Account,[59] and socioeconomic criteria[60] which excessively restricted existing legislation.[65]

It should not have been possible for governments to spend a decade and $4 billion on a manifestly inadequate approach with serious environmental consequences. Particularly one which advisory institutions had expressly advised against.

Ensuring timely and reliable water recovery requires:

1. Assurance mechanisms to keep water recovery on track.

2. Improved accounting to ensure water is reliable.

3. Updated strategy to meet environmental needs and avoid impediments.

Assurance mechanisms to keep water recovery on track

The parochial objectives of Basin state governments have repeatedly influenced the design of the Basin Plan and constrained the possibilities for what can be achieved.[61] In fact, recognition of this dynamic was the impetus for the *Water Act*. Basin states had failed to deliver on Council of Australian Governments (COAG) commitments made in 1994 and 2004 to address overallocation, forcing the federal government to step in.[62]

Unfortunately, the design of the Basin Plan did not preclude this dynamic from continuing. Impediments were placed on water recovery to suit the vested interests of the irrigation sector, and were reinforced by governments in Basin States, often pursued under the guise of minimising socio-economic impacts.

Reports prepared for Basin governments have nevertheless consistently produced conclusions which should have assuaged these doubts. In 2010, the Productivity Commission found that 'a neutral, independent buyback actually assists (rather than impedes) adjustment processes'.[63] Another found that straightforward water purchases have limited – 'small if not neutral' – socio-economic impacts.[64] In 2018, Basin governments had postponed water recovery efforts while awaiting another socio-

---

[57] Grafton and Williams, 'Thirst for Certainty,' p 17.
[58] *Water Act 2007* (Cth) s 85C.
[59] *Water Act 2007* (Cth) s 86AD(2).
[60] MDBA, 'Murray-Darling Basin Ministers Meet in Melbourne.' [65] *Basin Plan 2012* (Cth) s 7.17(2)(b).
[61] Environment Victoria, 'Debasing the Basin Plan.'
[62] Howard, 'Address to the National Press Club.'
[63] Productivity Commission, 'Market Mechanisms for Water Recovery,' XXXIII.
[64] Dwyer, 'Economic effects of the Commonwealth recovery programs,' p 28.

economic report. It ultimately affirmed opportunities to recover water with neutral or positive socio-economic impacts – the report did not inform policy.[65]

By 2021, the imagined risks had left extremely limited options for water recovery on the table: dubious offset projects and limited, expensive off-farm water-saving infrastructure. The Royal Commission report commented that this approach is 'antipathetic' to the interests of the environment and makes the achievement of sufficient water recovery 'doubtful'.[66]

The approach is ineffective because it does not transfer water to the environment. This was in fact the intention of some Basin States. This was articulated explicitly in the Victorian Government's submission to the 2023 Productivity Commission Inquiry, stating the intention to prioritise options that do not require the transfer of Victorian entitlements to the environment or to the Commonwealth.[67]

The pivot from open tender purchases to irrigation infrastructure subsidies represents the willingness of previous governments to 'generate wealth transfers', with economists noting that 'water users are highly likely to react to these signals and adopt new technology; but only after holding out for a subsidy'.[68]

The Productivity Commission provided another articulation, stating that 'large subsidies to irrigators … are simply the price that needs to be paid to achieve reform. But what the above analysis shows is that unless subsidies are kept to modest levels, the consequences are likely to be detrimental to the community as a whole. Subsidies not only transfer wealth from taxpayers to irrigators, they are also likely to lead to wasteful and inefficient investment'.[69]

The slow progress of water recovery makes clear that the strategy of 'purchasing' reform, at increasing taxpayer expense, has reached an impasse. A revised strategy requires new incentives and disincentives for Basin governments. In particular, it requires addressing the motivating factors maintaining these entrenched, ineffectual policy settings, including the insistence upon maintaining existing levels of use, rent-seeking for upgrades which infrastructure operators had previously accepted responsibility and the promise of funds and continuing employment within divisions of state water agencies.[70]

The previous regime of COAG water reforms had utilised a system of financial incentives – tranche payments which were conditional on implementation of water commitments.[71]

---

[65] Ernst and Young, 'Analysis of efficiency measures in the Murray – Darling Basin,' p 21.
[66] Walker, 'Royal Commission Report,' p 62.
[67] Victorian government, 'Implementation of the Murray – Darling Basin Plan 2023: Information request,' p 32
[68] Adamson and Loch, 'Achieving environmental flows where buyback is constrained,' p 99.
[69] Productivity Commission, 'Market Mechanisms for Water Recovery,' p 140.
[70] Marshall and Alexandra, 'Institutional Path Dependence,' p 690.
[71] Heinmiller, 'Multilevel governance and the politics of environmental water recoveries,' p 68.

Payments for a package of programs, disbursed to both the federal water department, the Department of Climate Change, Energy, the Environment and Water (DCCEEW) and Basin States, could ensure timely progress on water recovery.

This should begin with project planning. The proposed additional WESA Review to be undertaken by 30 September 2025 is insufficient.

Recommendation 6. Additional measures (s 86AD), repeal of the purchase cap (s 85C) and an additional WESA review (s 86AJ) are insufficient. Add requirements to define quarterly milestones for water recovery and report quarterly on water recovery progress the Department's existing reporting requirements (s 86AI). These reports from DCCEEW should be incorporated into the MDBA reporting process.

The tranche payments were acknowledged as playing a significant role in stimulating state water reform. Nevertheless, they were largely considered unsuccessful.[72] With a lack of independent intermediaries – institutions suited to withhold funding – the approach was constrained by the same intergovernmental politics.

This legislation moves to expand the powers of the Inspector-General of Water Compliance (Inspector-General), allowing for periodic audits by the Inspector-General or an appointed auditor – largely for the purpose of SDL adjustments and accounting (s 7.27(1)). These powers could be expanded to evaluate the progress reports described above.

Recommendation 7. Amend sections crediting water to WESA (ss 86AC, 86AG) and pending project agreements to utilise tranche funding for both Commonwealth recovery and Basin State programs, disbursed upon successful completion of project milestones. This should be subject to report recommendation, by the Inspector-General or an independent auditor (proposed new requirement in s 86AJ on WESA reporting and s 135R relating to audits), assessing the delivery of interim objectives.

Additionally, it is critical to ensure there is oversight of the purchase program. Previous strategic purchases have made notable missteps. For example, the Australian Government purchased 29 GL in the Condamine – Balonne for nearly $80m in 2017. Not only did the Commonwealth pay 85% more than the average price for more reliable water rights, but it paid 25% more than the seller's original asking price.[73] The purchase received additional scrutiny upon discovery that the Commonwealth did not raise concerns regarding potential conflict of interest, considering the seller was a corporation set up by the then Energy Minister Angus Taylor based in the Cayman Islands – though he had divested before entering Parliament.[74]

In 1996, the Independent Audit Group (IAG) was established to establish and review the implementation of the Cap, ensuring water use was not exceeded in Basin valleys. The IAG also

[72] Ibid.

[73] Slattery and Campbell, 'That's not how you haggle,' p 3.

[74] Slattery and Campbell, '#WaterMates,' p 2.

audited the implementation of the *Living Murray Intergovernmental Agreement* and identified risks to the achievement of project objectives.[75] A similar, expanded institution should be established to provide timely advice on water purchases. Moreover, it might oversee spending from the WESA initiatives that are not necessarily related to water recovery (s 86AD(2)(a)).

Recommendation 8. To prevent persistent problems from impacting new purchases (s 86AD), establish an independent commission to oversee water purchases. The commission should provide oversight of water valuation and assess the relevance of water rights to environmental requirements. This may operate as an intermediary or draw upon SDL compliance reporting functions (s 71), entitlement history and valuation (proposed new s 77A), functioning as an independent review group similar to those established in the Murray–Darling Basin Agreement (Schedule G, cl 29; Schedule F, cl 14)

If a planned program with refined incentives does not succeed in water recovery, other options, which may ultimately prove more equitable, have been outlined in the past. These include the compensated reduction of extraction licences – an across-the-board acquisition of certain water rights – or an across-the-board pro-rata purchase, evenly shared across industries.[76]

Significantly, it remains the case that the 450 GL is considered an 'additional' or 'optional' target that is not subject to the same rigour as the 2750 GL necessary to comply with the SDL. This is unacceptable, requiring further changes to the Water Act and Basin Plan to guarantee the recovery of the 450 GL – effectively bringing the total recovery target to 3200GL.

A 3200 GL target is necessary to 'reduce the number and duration of consecutive years where salinity thresholds are exceeded', determining the health and quality of habitat of the Coorong.[77]

To deliver the 450 GL the Royal Commission recommended re-determining 'the environmentally sustainable level of take (ESLT), and consequently amending the Basin Plan provisions relating to the Basin-wide resource unit SDLs, such that the additional 450 GL becomes redundant'.[78]

Recommendation 9. Additional measures (s 86AD), repeal of the purchase cap (s 85C) and an additional WESA review (s 86AJ) and other reforms may prove insufficient to ensure the recovery of 450 GL. Implement the recommendation by the Royal

Commission to re-determine the ESLT such that the 450 GL target becomes redundant, incorporated into the Basin-wide resource unit SDLs.

Finally, it is worth reiterating that many of the requirements of the *Water Act* and Basin Plan have not been enforced. This has been the case even where provisions are justiciable – where it appears Ministers and their delegates do not have broadly drafted powers.

---

[75] Scanlon, 'A hundred years of negotiations with no end in sight,' pp 6, 9, 18.

[76] Young, 'Is there a place for an across-the-board purchase?' p 2.

[77] Higham, 'An analysis of MDBA modelling outputs for the draft Basin Plan,' ii.

[78] Walker, 'Royal Commission Report,' p 48.

This may be addressed with third party standing, or open standing, which ensures there are not restrictions on who can take legal action and on what basis. This is 'particularly important given the virtual impossibility of obtaining a writ of mandamus compelling the government to enforce its own laws'.[79]

An example of open standing can be found in the *Protection of the Environment Operations Act 1997* (NSW) s 252 which provides for the right of any person to bring proceeding for an order to remedy a breach of the Act.

Recommendation 10. Amend the *Water Act* to provide for open or third party standing to ensure beach of the Act can be remedied. This may require a new section on remedy or restraint of breaches of the Act.

Improved accounting to ensure water is reliable

Over the past decade of Basin Plan implementation, the CEWH portfolio has grown to include 2,889 GL of entitlements with a long-term annual average yield of 2,001 GL.[85] In the last water year, 1,515 GL was allocated against these entitlements.

The mismatch between these figures arises because not all water rights are equal. There are over 150 different classes of water rights across the Basin. Some depend on specific seasonal conditions while others are managed to deliver reliably.

The long-term annual average yield is how water is accounted against Basin Plan targets. These assign a long-term diversion limit equivalent (LTDLE) factor, or **Cap factor** to entitlements – using historical patterns to provide an exchange rate for different water products. While this provides an accounting system, allocations arise from a seasonal determination process – based on inflows, predicted inflows and how recent years have impacted outstanding obligations. While **entitlements** confer a legal right to use water, **allocations** represent the water actually available to use or trade.

Generally, the interface between these two processes – water accounting and the volume of annual permitted take – has been fraught. This is due, in part, to the inherent difficulty of the process.

Models are developed to consider historical climate variability while representing river management and operational rules and environmental flow processes. Models are calibrated for reaches of the river, analysing its ability to replicate flows at the downstream gauges.

This is an iterative process. As knowledge of the hydrology – the flow processes – of the system improves, the model and estimates of key figures are updated to reflect the best available information. This means that none of the Basin Plan's quantitative limits are set in stone. As new information feeds into the model, the Baseline Diversion Limit – or historical level of take – is re-

[79] EDO, 'Submission to the Productivity Commission on the National Water Reform Inquiry,' p 15 [85] CEWH, 'Environmental Water Holdings.'

assessed. The Sustainable Diversion Limit for each resource unit is revised to reflect proposed water recovery targets.[80]

The decision by the MDBA to maintain a constant relationship between the BDL and SDL creates risks. For example, if the BDL is re-assessed, estimating a higher level of historical take, then the SDL will also increase – both theoretically pivoting around the 2750 GL water recovery figure. An increase to the SDL changes the balance of water in the system – the environment's share and the annual permitted take allowed for consumptive use.

Because the SDL can be changed at any time with new information, without community consultation or Parliamentary scrutiny, it has been increased by 331.2 GL.[81] This increases allowable take, undermining the security of water that has been recovered for the benefit of the environment.

Recommendation 11. Water recovered toward the 450 GL may vary over time, requiring assessment and conversion into a common unit (proposed new s 7.16A). Improve Sustainable Diversion Limit (SDL) accounting. Information should be kept on model runs to recreate and independently assess them. Controls which preserved the rigour and integrity of Cap models should be applied to the SDL. This may require several changes to the *Water Act* (such as s 23A), the Basin Plan (such as s 6 and Schedule 3) and may draw on Schedule E of the Murray–Darling Basin Agreement.

Opaque modelling should also subject claims of 'over-recovery' to additional scrutiny. Like model runs, cap factors, the long-term exchange rates for water rights, have been changed repeatedly. In the Macquarie valley, they have been revised several times without independent verification – or disclosure on how they were determined.[82] In effect, this allows for an over-estimation of water that has been recovered – claiming that water delivers more reliably than it does.

The legislation proposes new measures to be used to deliver the 450 GL. These include water purchases, land and water packages as well as transferring claimed 'over-recoveries' from other targets. These transfers are not well-founded.

Recommendation 12. Considering challenges that may arise from accounting for new contributions (proposed new s 7.16A), require independent auditing of LTDLE or Cap factors. Claimed 'over-recoveries' should not contribute to the 450 GL target without a comprehensive review of SDL models and accounting. This could be included in the new Inspector-General functions (proposed new s 135R) and modelled on the work of the Independent Audit Group (IAG) (Murray–Darling Basin Agreement, Schedule E).

These problems have been expressed in Basin-wide accounting imbalances. There has been a significant disparity between the water expected each year under the Basin Plan and actual river flow

---

[80] Jakeman et al, 'Independent Review of the Source Model,' p 7

[81] Slattery and Johnson, 'Submission to the Murray – Darling Basin Plan,' p 8.

[82] Slattery and Johnson, 'Water recovery and 'over recovery,' p 4

at key sites. Concerningly, 20% of the water expected was not received.[83] This shortfall may be attributed to drier than expected conditions, higher conveyance requirements because of those conditions or because of large irrigation orders further from storages, inadequate rules protecting environmental flows and improper accounting.

It is not currently possible for decision-makers to understand with reasonable certainty how much water is available, how much is being used and where. The inability to validate assumed flow against observed data is further complicated by the likely overestimation of water recovery from water-saving infrastructure projects which 'do not 'save water' per se – they merely have the effect of redistributing water in space and time'.[84] Further, water accounting is likely undermined by improperly calculated Cap factors. As described above, some entitlements may be artificially inflated – they may yield less than they have historically.

Ultimately, reconciling this disparity requires a comprehensive assessment of water resources to develop a better picture of water use and availability. This would include a full disclosure of water balance by valley, enhancing reporting on inflows into rivers and dams, end-of-system flows and evapotranspiration. It would also more-comprehensively assess extractions, interceptions and on-farm storage capacity – which has increased 2.5 times since the introduction of the Cap on diversions.[85] The assessment might also draw upon reporting on irrigated agricultural production to verify water use. This could rely on satellite imaging as well as information collected by the Australian Bureau of Statistics (ABS) and Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES). This assessment could be prepared by enhancing current reporting by the Bureau of Meteorology (BOM).

The new amendment enabling the Commonwealth to request information about the history of a water access entitlement (s 77A) may enable this process. But just as critically, the reforms above are essential to avoid the application of this provision to unvalidated claims of 'underuse' that may further undermine the integrity of the CEWH portfolio.

Recommendation 13. Proposed changes for SDL compliance (Part 4, Division 1) do not sufficiently overcome water information problems. Conduct a water resource assessment to develop a better picture of water use and availability. This should lead to double-entry water accounting: where credits (inflows) equal debits (extraction, evaporation and other losses). This is necessary to provide consistent and reliable information to underpin the protection of water recovered for the environment. These functions could be outlined in Part 7 of the *Water Act*, outlining water information and publishing of water accounts.

This package of reforms would link water models to improved water accounts, ensuring an accurate picture of water in the system and how much different water rights are worth over the long-term (i.e. their reliability). Independent reports on modelling performance, public disclosure of changes

[83] Wentworth Group, 'Assessment of river flows,' i.

[84] Crase et al, 'The Fluctuating Political Appeal of Water Engineering,' p 446.

[85] Brown et al, 'An unsustainable level of take,' p 43.

and independent auditing of results would minimise the risk of arbitrary changes over-valuing water recovered on paper – and consequently allowing over-extraction of water flowing through the river.

In effect, it would ensure the SDL, the ultimate quantitative control imposed by the *Water Act*, functions as an effective limit.

Finally, these reforms would benefit from stronger duties conferred on the Inspector-General. As proposed, this legislation gives the Inspector-General the discretion to conduct audits and publish reports, publish guidelines and assess compliance. These could be improved in several respects.

Recommendation 14. Confer a duty on the Inspector-General to conduct audits and publish reports, rather than a discretion (s 135R). Require Basin States to respond to guidelines and action plans under the Basin Plan rather than having regard to them (s 6.08). Provide standards for what constitutes a 'reasonable excuse' for exceeding permitted take by more than 20%, to enhance accountability.

In the 2020 water year, the New South Wales government made a reasonable excuse claim, citing the failure to adequately calibrate its model to account for new meters.[86] With opaque modelling described above, these problems have the potential to create self reinforcing feedback loops.

Updated strategy to meet environmental needs and avoid impediments

Challenges to infrastructure-based approaches to water recovery

Open tender water purchases have long-been acknowledged as the most reliable, cost-effective method for water recovery.[87]

Nevertheless, infrastructure-based solutions have been contemplated since Prime Minister Howard first announced his intention to legislate the *Water Act* as part of the National Plan for Water Security. Options included on-farm water efficiency infrastructure, as well as targeted, strategic rationalisation through irrigation authorities. This included the contraction of channel networks by closing parts of the distributions system while modernising the 'backbone,' or abandoning some assets altogether.

The risks of this approach were identified just as early. Projects financed under the Living Murray initiative had cost nearly 40% more than market-based measures.[88] It is well documented that if investments do not meet basic cost-benefit criteria for water saving, they delay the adjustment irrigation areas will inevitably face. In other words, they can lead to 'gold plating' assets that may subsequently become stranded while perpetuating a dependence on increasing external support –

[86] NSW DPIE, 'Reasonable Excuse Report,' p 1.
[87] Productivity Commission, 'Market Mechanisms for Water Recovery,' XLIX.
[88] Ibid., XXXIV.

imposing substantial costs elsewhere.[89] In effect, infrastructure investment may create an imperative to sustain the viability of those assets while perhaps neglecting more difficult, structural reforms.

Further, before the Basin Plan was signed into law, economists described water-saving infrastructure approaches as an egregious subsidy to irrigators at a huge loss to taxpayers because it was 'such an expensive way to solve a problem'.[90] Experts confirmed there was no evidence of significant water savings and discounted claims that such projects would ensure food security as an 'absolute furphy'.[91]

Studies considering the claimed flow-on benefits of these programs reveal that those advantages are merely speculative. Efficiency projects are relatively fruitless in terms of job creation, with modelling revealing that 'each dollar spent on human services creates four times as many jobs within the Basin as infrastructure upgrades spending'.[92] These projects also push up the price of water as beneficiaries have higher returns per megalitre and consequently more buying power. The step-up in demand is estimated to have increased water use across participating farms by 23%, increasing prices more than a program focused on purchases would have.[93]

Rules-based (administrative) changes provide another set of challenges. This approach is typically sought in unregulated catchments, where entitlements are not released from larger storages. In these systems, rules can be used to provide minimum base flows. For example, using 'cease to pump' conditions to ensure water passes downstream for environmental purposes.

Challenges of rules-based approaches to water recovery

But rules-based approaches require simultaneous changes to state policy, shepherding water across trading zones and borders. In absence of these provisions, flows intended to benefit the length of the river can be pumped in certain jurisdictions. This problem was exemplified in the 2012 Barwon – Darling Water Sharing Plan, which removed pumping restrictions and allowed individuals to take 300% of their allocation in any year, effectively accumulating debt from the river. The process reversed several rules which collectively kept extractions below the Cap.

Similarly, water needs to be protected from capricious, unaccountable redirection by Basin States during dry periods. In Victoria, for example, the environment's share of available water is subject to temporary 'qualification', or redirection, by the Minister during times of shortage.

For rules-based approaches to contribute reliably to water recovery targets, it would be necessary to implement the accounting recommendations described above – ensuring a reliable level of annual permitted take and an accurate assessment of the water in the system. Further, it would depend on an assessment and revision of water access rules in Basin States which could circumvent these protections. Finally, it would require the use of flow targets based on the best available science,

---

[89] Ibid., XXXV.

[90] Fyfe, 'Brumby's water plan savaged.'

[91] Ibid.

[92] Witter, 'Modelling variants of the Murray-Darling Basin Plan,' p 18.

[93] Whittle, 'Analysis of economic effects of water recovery,' p 7.

responsive to climate impacts and triggering enforceable limits on extraction until the environmental watering requirements of each catchment are met.

Recommendation 15. Considering challenges that may arise from accounting for new contributions (proposed new s 7.16A), preclude unreliable water recovery product until a broader assessment of water access rules is completed. Rules-based water recovery is easily subject to change by Basin States and depends on consistent Water Resource Plans. It is unclear whether the amendment proposes incorporating a range of water products as additional HEW entitlements. This may require amendment to the process by which water becomes Held Environmental Water (proposed new s 7.08B).

Ensuring rules-based recovery responds to climate impacts and environmental water requirements points to the need for a broader assessment. In a hotter, drier climate, both held environmental water (HEW) which is part of a licensed entitlement, typically released from dams, and planned environmental water (PEW), which is typically based on flow rules, are likely to become less reliable.

The challenge becomes more pronounced considering what can be achieved with water in a hotter, drier climate. This is partially the result of higher rates of evaporation and warmer conditions, but also an effect of the reduced size of regular, natural flow events that water managers use for 'piggy-backing' environmental flows.[94]

Understanding how altered flow regimes and climate change are affecting wetlands across the Basin might begin with an update of the Sustainable Yields Project, which is assessing the likely impacts of climate change on surface water and groundwater in the Basin. In practical terms, it might look to establish the water in the system with a greater focus on connectivity. This means illustrating the ongoing requirements to achieve lateral (overbank), longitudinal (end-of-system flows) and vertical (groundwater interaction) connectivity in a range of climate scenarios.

Recommendation 16. Bring forward the CSIRO Sustainable Yields Project to assess the water in the system and how connectivity is likely to be impacted in a hotter, drier climate.

The difficulty of these reforms should point to the value of prioritising HEW for water recovery efforts. Ultimately, Basin-wide restoration requires multiple efforts working in tandem. Held environmental water is necessary to provide active management, replicating components of a more-natural flow regime. Rules-based (administrative) changes are often critical for providing minimum flows. Complementary measures play a role enhancing these outcomes. But flow variability is the essential driver of ecological condition for flow dependent flora and fauna in the river and across the floodplain. In a heavily altered system, the needs of these species can now only be met through managed environmental flows.[95]

Strategic water purchases to avoid short-term shocks

Changing market conditions have fuelled speculation about what is possible to achieve with water purchases. For example, while the number of entitlement trades is increasing, the average parcel size

[94] Horne et al, 'Kaiela Environmental Flows Study,' p 4.

[95] Ryan et al, 'Flow to nowhere,' p 1411.

is decreasing.[96] This has been used by some commentators as an indicator of the diminishing appetite for trade, the limited potential for water purchases and the outsized effect they may have on prices.

Nevertheless, it has also been acknowledged by active investors that larger parcels are typically only available when land and production assets are offered for sale.[97] This should draw attention to the role of off-market water exchange. It may also highlight how farms are restructuring now, at a pace that is not ideal for rural communities – but water rights are flowing to large agribusinesses and institutional investors rather than correcting systemic overallocation.

Strategic purchases have been recommended in several instances, most notably in the Independent Assessment of the 2018-19 fish deaths[98] and the NSW Natural Resource Commission's review of the Barwon – Darling Water Sharing Plan.[99]

Recommendation 17. Conduct a stocktake of strategic water recovery opportunities. Voluntary compensated projects decommissioning irrigation infrastructure or supporting industry restructure may minimise third party impacts while allowing for the acquisition of larger volumes of water over shorter time periods.

Realise the benefits of water recovered

The governance and institutional arrangements for the Basin Plan present a number of significant risks. But these have been particularly evident in the implementation of the constraints relaxation program. These address both physical constraints, like low-lying bridges, roads and private land that would be flooded at higher flows, as well as operational constraints, like rules and practices for the MDBA and other infrastructure operators. In effect, they allow larger pulses of water which inundate the low-lying floodplain below minor flood levels – enabling recovered water to reach wetlands downstream.

Relaxing constraints on river flow is essential. Without these projects, 'achieving so-called enhanced environmental outcomes will either not happen or will result in limited outcomes'.[100] These projects are also essential to realise the greatest benefit from water that has been recovered. The failure of state governments to implement these measures has, in the broader water management context,

[96] Aither, 'Australian Water Markets Report,' p 31.

[97] Duxton, 'Explanatory statement to notice of general meeting,' p 20.

[98] Vertessy et al, 'Independent assessment of the 2018-19 fish deaths,' p 74.

[99] Natural Resource Commission, 'Review of the Water Sharing Plan for the Barwon – Darling,' p 384.

[100] Walker, 'Royal Commission Report,' p 60.

meant that only 7% of the wetland area in targeted river valleys is receiving effective environmental flows.[101]

They also provide notable benefits, including forward planning for infrastructure to protect communities from larger floods as well as more sophisticated early warning systems. The physical works needed to make roads and bridges accessible in smaller environmental flows will prove beneficial in larger, unplanned events. Similarly, updated modelling and measurement, incorporating observations from flooding, will provide a better understanding for how water will flow across the landscape.

Unfortunately, changes to proposals on tributaries like the Goulburn, as well as the slow rate of progress on projects across the board, indicates 'the appetite for ambitious constraints relaxation projects by state governments appears to be relatively low'.[102] While a range of instruments and options are available, governments have proposed that easement sales allowing water to flow over the lowermost floodplain remain voluntary.[103] This allows individual landholders to block the delivery of the program.

Recommendation 18. The proposed constraints relaxation implementation roadmap (s 7.08A) is insufficient to deliver the program. Add to this section the requirement for a review, appointing a panel of independent experts to find a workable pathway to constraints relaxation. This should include consideration of a wider range of options for landholders to participate, including time-limited easements and voluntary land purchases.

It is worth recognising that the constraints program and enhanced environmental water delivery (EEWD), a broader initiative to predict and coordinate flows, continue to evolve. In Victoria, for example, feasibility studies are being undertaken, project scope is being refined, and prototypes for implementation are in development. For several years, the Victorian government has also been updating modelling, incorporating observations from recent flooding to improve the understanding of how private property will be impacted by larger pulses.

As these programs continue to develop, there is reason to believe that they will become more-iterative programs. For example, a trial-based process may be adopted to advance relaxed constraints, recognising seasonal conditions, the short-term requirements of ecosystems, and a range of available water products. After years of intense water delivery for irrigated agriculture in the Sunraysia region, this may also be necessary to support the establishment of additional vegetation on banks to build stability – avoiding the risk of slumping and collapse with larger flows.

Currently, partially as a result of the slow progress by Basin States developing and working through these projects, there has been unclear communication on liability and the possibilities for managing unexpected outcomes. They may be advanced with mechanisms for managing unexpected outcomes.

---

[101] Chen et al, 'A trickle, not a flood,' p 601.

[102] Kahan et al, 'Using an ecosystems approach to reframe the management of flow constraints,' p 12.

[103] Pittock et al, 'Evidence-Based Conservation of the Northern Victorian floodplains,' p 113.

Recommendation 19. To deliver the constraints program, extend the proposed roadmap (s 7.08A) to requirement for the Commonwealth to establish and maintain a fund to quickly respond to and manage unexpected outcomes for private landholders.

It should be recognised that the slow implementation of the constraints program has – perhaps deliberately – been utilised as a control valve for the speed of Basin Plan implementation for some time. For example, there has been consistent speculation on the value of recovering additional water for the environment while the constraints program remains incomplete. And conversely, whether it is worth advancing the constraints program while there is not additional water for the environment. Notably, this is not an argument that has ever been advanced by water managers. Partially because additional environmental water can deliver essential in-channel outcomes maintaining bank vegetation and flushing salt from the system.

Nevertheless, it highlights the need to address 'lock-in' on constraints management. This could be overcome with more explicit deadlines. As the Royal Commission observed, major infrastructure projects 'often involve the compulsory acquisition of property, on the basis they are one example of government action felt to be in the interest of the public at larg For progress to be made with landowners and others who will be impacted by constraint easing or removal, it is likely that the process will have to become compulsory in the national interest. This means of course, an appropriate acquisition and compensation scheme will need to be in place'.[104]

Recommendation 20. Proposed delivery of constraints remains at 31 Dec 2026, two years after the completion of the roadmap (s 7.08A). Further amend s 7 to set a deadline for agreements after which compulsory acquisition of easements should be undertaken. The Commonwealth should oversee the compulsory acquisition of land in accordance with the Commonwealth Procurement Rules.

Finally, recognising the value of test cases to gather information on flows with relaxed constraints, maintain the short-term needs of the environment, and build longer-term partnerships with riverside landholders, relevant institutions should be empowered to begin the process.

Recommendation 21. Give the CEWH and MDBA the mandate to operate. Allow the MDBA and CEWH to develop plans and deliver water at flow rates identified in the Constraints Management Strategy (s 30). Allow for the use of water for the environment to inundate private land (s 110).

Phase out failed experiments

Before the development of the Basin Plan, 'environmental works and measures' served as effective shorthand for the infrastructure, provisions and river operations needed to optimise the use of water set aside for the benefit of the environment.

By 2009, however, the concept had been reinterpreted. Rather than merely achieving benefits from water set aside for the environment, structural works were proposed as a substitute for recovering

[104] Walker, 'Royal Commission Report,' p 60.

water in the first place.[105] This proposal became the basis of the Sustainable Diversion Limit Adjustment Mechanism (SDLAM), which is implicitly an offsetting program – where environmental outcomes equivalent to the 2750 GL environmental water recovery target are sought to be achieved with less water. Again, this volume has long been recognised as inadequate to create ecologically effective floods across the Basin. Rather than improving upon these outcomes, the SDLAM program treats them as a ceiling, locking in failure.

The water offsetting program seems to be the only program of its kind in existence. The approach 'remains untested, lacks on-ground validation and is based on ecological modelling that relies on generalised and hypothetical assumptions'.[106]

The offsetting program includes a range of projects, from infrastructure measures to rules based measures, constraints measures and even works completed years earlier through the Living Murray initiative – which were included while the extent to which they had already been factored into the baseline conditions underlying the targets, and the extent to which they represent significant changes, remains difficult to discern.[107]

Some of these projects may be beneficial – but they may not all be necessary. The projects were developed in anticipation of an 'offset' and modelled in 'packs' without a robust analysis of additionality. In other words, because such a large and disparate package of projects was modelled together, it is difficult to tell how they are contingent on other projects or whether they provide additional outcomes.

For example, the relaxation of constraints is a precondition for these projected outcomes. The Royal Commission found that 'the ability for some supply measures to achieve their modelled outcomes is either highly or wholly dependent on the full implementation of the five constraints measures proposals… This greatly jeopardises the ability of the package of supply measures to operate as supposedly intended, achieve its maximum benefit and thereby achieve or constitute environmental equivalence'.[108]
It may equally be that the projects do not provide any additional benefit over constraints. Or benefit that cannot be achieved with less intervention, such as additional water recovery and relaxed constraints. Further, it is unclear whether the projects can deliver the intended timing, frequency and duration of inundation with the existing portfolio of held environmental water, particularly as its reliability erodes in a hotter, drier climate.

This experimental effort to consolidate these projects as 'equivalent' to volumes of held environmental water has deprived the environment of essential flows for over a decade. Recognising the findings of the Royal Commission on the 'experimental and unprecedented' notion of ecological equivalence, this program should be urgently phased out.[109]

---

[105] DSE, 'Northern Region Sustainable Water Strategy,' p 45.
[106] Lyons et al, 'Towards a scientific evaluation of environmental water offsetting,' p 267.
[107] Victorian government, 'Notice by the Victorian government under Section 43A(4),' p. 1.
[108] Walker, 'Royal Commission Report,' p 310.
[109] Walker, 'Royal Commission Report,' p 57.

Recommendation 22. Time extensions should not be permitted for all supply measures (s 7.11). Amend s 7.12 and immediately withdraw funding from failing or stalled supply measures projects and commence water purchases in target valleys.

For other projects, it is crucial that the reconciliation framework, which will calculate the difference between predicted and achieved outcomes, is revisited. Despite concerns raised in the Royal Commission and peer-reviewed literature, the framework contains several inadequacies.

Critically, environmental outcomes are not being proven with empirical evidence, residual risks like blackwater and carp remain unaccounted for, and neither indirect floodplain impacts nor climate change stand to be considered.[110] Nor has the reconciliation framework addressed the risk these projects pose by limiting the modification of water regimes through adaptive management, potentially 'creating ecological 'museums'' at the expense of the wider floodplain.[111]

In practical terms, a number of these projects involve artificial flooding. Water may be pumped into sites on the floodplain, inundate a select area, facilitated by constructed levees, and recede back to the river channel. These are substantial interventions. The process requires clearing native vegetation to construct levees and install regulators. The flow patterns, which rely on a pattern of ponding that is not only conducive to carp breeding but will change how water is held on the floodplain – fundamentally changing the distribution of vegetation and habitat. The operative principle is that as the character of flow events changes, wetlands begin adapting to a new flow regime.[112]

While the Basin Officials Committee (BOC) is permitted to adopt a revised method, it is not compelled to adapt the previous method to the best available science.[113]

Recommendation 23. Amendments concerning the reconciliation framework (s 7.15) allow BOC to consider another method. This should be further amended, to require updating the method, improving the reconciliation framework and process to ensure the supply contribution achieves equivalent outcomes. This should incorporate empirical evidence from implemented projects, accounting for environmental risks (e.g. salinity and blackwater), likely impacts of climate change and water availability on the ability to deliver stated outcomes, and an assessment of negative impacts from the offset on the wider floodplain. This updated framework should be reviewed by an independent expert panel.

The results of this assessment should be regularly monitored, and offset volumes confirmed or re-calculated.[114] Until a significant body of peer-reviewed research has been developed, the Ecological Elements Scoring Method – and the experimental notion of ecological equivalence which it underpins – should not be used to attribute volumetric values to infrastructure or rule changes.

---

[110] Lyons et al, 'Towards a scientific evaluation of environmental water offsetting.'

[111] Acreman et al, 'Environmental flows for natural, hybrid and novel riverine ecosystems,' p 468.

[112] Schweizer et al, 'The Dammed and the Saved: a Conservation Triage Framework,' p 550.

[113] *Basin Plan 2012* (Cth) s 7.15(2)(b).

[114] Lyons et al, 'Towards a scientific evaluation of environmental water offsetting,' p 277.

Finally, there are significant risks that may arise from permitting new projects in the SDLAM program. This arises from the persistent effort by Basin States to expand the offset program, reinterpreting structural works as a substitute for flows.

Projects likely to be proposed would previously have been designated as 'complementary measures' – they are complementary to environmental flows – not a substitute. These programs typically address invasive species, restore habitat, address cold water pollution and improve fish passage.

In some respects, these works acknowledge the far-reaching impact of irrigation, which over the past century has required intense development and disrupted flow patterns with major headwater storages, locks, weirs and other impoundments. This 'river regulation' not only facilitated over-extraction of water, it also changed rivers profoundly by reversing seasonal patterns, depriving wetlands and floodplains of water, and seriously degrading the habitat of native species that depend on freshwater flows for their survival.[115]

This degradation isn't the result of over-extraction alone. Instead, it is the result of the paradigm of 'working rivers' which repurposed rivers to make over-extraction possible, fundamentally altering flows in the process.

Numerous expressions of river degradation emerge from this system of river operation. **Cold water releases** from storages disrupt fish and invertebrate breeding during spring and summer when water is sent downstream for irrigation. **Sediment** which fills in habitat

and limits light for aquatic plants is largely derived from instream bank erosion caused by long-duration summer irrigation flows.[116] **Fish passage** has been limited by weirs, some of which function to maintain hydraulic head for water diversion into canals. Similarly, **poor water quality and blackwater** is the result of the less frequent smaller floods which would have regularly swept manageable amounts of organic matter from the floodplain.

But these impacts cannot be genuinely addressed without confronting overallocation, which remains the fundamental driver of river regulation. In isolation, these measures are insufficient to achieve large-scale wetland restoration.[117]

For example, considering efforts to address invasive species, like carp, it is worth recognising a complicated but significant dynamic. Environmental flows allow native fish to remain competitive but appear to cause little impact on the trajectory of the carp population. But critically, the alternative to environmental flows – artificial floodplain inundation, discussed above – causes significant and maintained carp recruitment compared to the baseline.[124]

Similarly, the role of private land management has strong possibilities and inherent limitations. This is often raised in the context of rice paddies and other paddocks which can provide habitat for endangered species like the Australian bittern. While this is sometimes among the last remaining

---

[115] MDBC, 'Report of the River Murray Scientific Panel on Environmental Flows,' p 18.

[116] Rutherford et al, 'Human impacts on suspended sediment and turbidity, p 523.

[117] Cresswell and Baumgartner, 'The relative environmental benefits of complimentary measures,' iii. [124] Todd et al, 'Does environmental water management promote invasive fish?' p 1.

habitat in a cleared and fragmented landscape, it is limited by several factors: these paddocks have limited species diversity and all decisions about what to grow, how much water to use, which chemicals to apply, when to use water, when to harvest – and ultimately whether to continue maintaining the landscape – are made by landholders to meet their business needs. Environmental objectives are most often secondary. Further, it is essential to recognise that these landscapes do not provide habitat in perpetuity. This contrasts with wetland habitat which has adapted over thousands of years to support a variety of species.

Achieving benefits from complementary measures, improving private land management and ultimately integrating these efforts with environmental flow management is an ambitious goal for the Basin. But these projects are consistently positioned as 'substitutes' for water recovery – which is anathema to their function as 'complementary' measures.

Recommendation 24. New supply measures should not be permitted (s 7.12). Amend the section to prohibit additional supply measures which will divert resources and funds away from completing the constraints relaxation program and other projects intended to deliver flows for the benefit of the environment.

Finally, it must be recognised that these projects have taken years to develop. Many of the proposed SDLAM projects received funding for feasibility investigations in May 2011.[118]

Victoria has so far spent $54 million just on planning these projects in a process that has spanned over a decade.[119] It is unlikely that new, rigorous projects could be proven in the next two years. Moreover, the opportunity to begin new projects, with additional sunk costs, risks creating the conditions for further delays and extensions in 2026.

Fund community adaptation

The program of voluntary water purchases began successfully recovering water for the benefit of the environment in 2008. But over the same period, it was marked by the perception of socio-economic impacts.

While water recovery was a notable policy, it was ultimately situated among more significant changes in land ownership and financialisation – the series of COAG reforms discussed above which facilitated the exchange and accumulation of water rights as a tradeable commodity.

The *Water Act* 'was introduced at a time that Australian farmers were losing competitiveness due to a soaring Australian dollar resulting from the mining boom' and when 'the Basin was in drought,

[118] Ministerial Council, 'Environmental Works and Measures Feasibility Program.'
[119] Pittock and Collof, 'Victoria's plans for engineered wetlands on the Murray.'

which brought community stress'.[120] The coalescence of these factors have led economists to conclude that 'buybacks have become a scapegoat for adversity within the Basin'.[121]

This scapegoating is most often applied in the incorrect contention that there is a proportional relationship between reductions in farm water use and farm irrigated production. This 'unit elastic response' has been described theoretically, in a recent report commissioned by the MDBA: that 'a 1% decrease in water extractions leads to an equal 1% decrease in irrigated hectares, which subsequently results in an equal 1% decrease in irrigation production'.[122]

These figures have been used to extrapolate the impact of water purchases on water prices and commodity prices, like the annual farm-gate value of dairy production, and further, the impact on jobs across the region. **But this assumes a direct linear relationship that does not hold true in empirical – or even theoretical – contexts.**

Other applied economic studies 'using surveys and real data have found there is not a direct proportional relationship between reductions in farm water use and farm irrigated hectare production, because of factors such as farmer adaptation, surplus water use, water substitution, water trade and farm restructuring following buyback'.[130] This represents a 'significant difference between much work commissioned by irrigator groups, governments and the work done by academics and other research groups'.[131]

Crucially, the 'bulk of the large-scale reviews to date have not managed to identify a causal relationship between water recovery and economic outcomes'.[123] But the figures suggesting water recovery is to blame for a loss of regional economic value and jobs

continue to be cited. This dynamic has been described by economists in a literature review commissioned by the MDBA to assess the quality of socio-economic reports:

> 'These figures quite rightly upset many people in rural and regional communities (and urban communities) when they are discussed and circulated, as no one wants rural communities to suffer. In addition, these are the only sorts of figures that are repeated in rural newspapers, with very little to zero commentary ever provided on more balanced assessments.
>
> **But are such figures of socio-economic impact correct? The answer is unequivocally, no. Indeed, they have all also been rated as 'low quality' in our quality assessment.** The reason why is that the majority of farmers make decisions every year on how to maximise their farm production and they regularly adapt to changed situations. These situations include a changed climate; changing commodity prices; changing input prices; water use; technology; irrigation infrastructure; trade; diversification off-farm income; reinvestment etc'.[124]

---

[120] Wittwer, 'Modelling variants of the Murray – Darling Basin,' p 7.

[121] Ibid.

[122] Wheeler et al, 'Identifying water-related economic values,' p 88. [130] Ibid.,

p 18. [131] Ibid.

[123] Ibid., p 87.

[124] Ibid., p 89.

Addressing the real concerns with water purchases likely requires untangling these various instances of false attribution. As referenced above, drought and climate change in combination with decreased commodity prices presents real challenges.[125] Industries like dairy suffer from trade sanctions while prolonged drought drives up water prices. These factors play a significant role in farm exits.[126]

These factors also apply to the 'Swiss cheese' effect, which has been used to describe both the flow-on impacts in the community from farm exit as well as the flow-on impacts to other customers on the channel system, who bear an increasing burden for channel maintenance upon the exit of other customers. These claims would seem to be undermined by evidence that many famers participating in voluntary water purchases sold only a portion of their water, generating cash-flow to pay off long-term debts and invest in their business. Further, as discussed above, the simplistic relationship between water use and farm production does not hold true – while broader claims on community impact disregard evidence that water buybacks have positive impacts on community spending.[127]

At the same time, it is possible that other factors may be influencing the 'Swiss cheese' effect. For example, farmland value has grown significantly in the past decade.[128] Practices by investment groups taking advantage of appreciating land values may intersect with the trade and termination of delivery rights. Meanwhile, other factors could include the rapid expansion of horticulture in the lower Murray, with changing patterns of use driving local change. If these factors are driving lower utilisation of channel systems and thus increased

evaporation, they may compound the inherent problems with water-saving infrastructure upgrades discussed above – further undermining claimed efficiency savings.

While it remains critical to identify opportunities for water recovery that maximise public benefits, economists have concluded that separate policies would be more efficient and equitable to provide water for the environment and support jobs and incomes in the Basin.[129] Disentangling these confounding variables will be essential to progress these aims thoughtfully – pairing buybacks with thoughtful spending on regional development projects to help ease adjustment pressure.[130]

Recommendation 25. Conduct an inquiry to disentangle the factors that characterise the perceived impact of water recovery. This includes the impacts of water reform (unbundling and financialisation of water rights), the Basin Plan (water purchase and adaptive management) and broader challenges (climate change risk, commodity prices, trade sanctions, mechanisation). Identify structural obstacles to reliable employment, income, education, decent housing and a high standard of living – and pathways toward diverse, resilient economies.

The same broad assumptions regarding the impact of water purchases on communities with irrigated agricultural production have constrained this assessment. In other words, it is crucial to recognise

[125] Wheeler, 'Debunking Murray – Darling Basin water trade myths,' p 7.
[126] Wheeler et al, 'Modelling the climate, water and socio-economic drivers of farmer exit,' p 551.
[127] Wheeler et al, 'Submission to the Murray – Darling Basin Royal Commission,' p 3.
[128] Rural Bank, 'Australian farmland values,' p 31.
[129] Wittwer, 'Modelling variants of the Murray – Darling Basin,' p 25.
[130] Whittle, 'Analysis of economic effects of water recovery,' p 7.

that ‘water is only one minor contributor to regional economies, designing proper structural adjustment programs based on evidence about what really drives regional economies is of key importance’.[131]

Mitigating the impacts of droughts on communities and diversifying their economic base requires collaboration with those communities – without assuming the desired pathways of economic diversification and community development.

Recommendation 26. Establish a transition fund to assist impacted regional and rural communities with climate change adaptation.

[131] Wheeler et al, ‘Identifying water-related economic values,’ p 14.

References

Acreman, Mike C et al. 'Environmental flows for natural, hybrid and novel riverine ecosystems in a changing world.' *Frontiers in Ecology and the Environment* 21 (2014): 466-473.

Adamson, David and Adam Loch. 'Achieving environmental flows where buyback is constrained.' *Australian Journal of Agricultural and Resource* Economics 62 (2017): 83-102.

Aither. 'Water Markets Report: 2021-22 Review and 2022-23 Outlook.' (2022).

Brown, Patrick et al. 'An unsustainable level of take: on-farm storages and floodplain water harvesting in the northern Murray–Darling Basin, Australia.' *Australasian Journal of Water Resources* 26, no 1 (2022): 43-58.

Burke, Tony. 'Media Release: Labor will get the Basin Plan back on track.' (2019).

Casben, Liv. 'Waterbird population has fallen as much as 90 per cent in Australia's east, shows 37year study.' ABC News (19 Nov 2019).

Chen, Yiwen et al. 'A trickle, not a flood: environmental watering in the Murray–Darling Basin, Australia.' *Marine and Freshwater Research* 72 (2021): 601-619.

Commonwealth Environmental Water Holder. 'Environmental water holdings.' Department of Climate Change, Energy, the Environment and Water (2023).

Crase, Lin R et al. 'The Fluctuating Political Appeal of Water Engineering in Australia.' *Water Alternatives* 2, no 3 (2009): 441-447.

Cresswell, Ian et al. 'Scoping the development of a method to assess the relative environmental benefits of Complementary Measures.' Report to the Murray–Darling Basin Authority (2017).

Davis, Megan. 'Indigenous Struggles in Standard Setting: The United Nations Declaration on the Rights of Indigenous Peoples.' *Melbourne Journal of International Law* 9, no 2 (2008): 439.

Department of Climate Change, Energy, the Environment and Water, 'First Review of the Water for the Environment Special Account.' (2020).

Department of Environment, Land, Water and Planning. 'Water is Life: Traditional Owner Access to Water Roadmap.' (2022).

Department of the Environment and Water. 'Long-term environmental watering plan for the South Australian River Murray water resource plan area.' (2020).

Department of Planning, Industry and Environment. 'Murray-Lower Darling Long-Term Water Plan Part B: Murray-Lower Darling planning units.' (2020).

Department of Planning, Industry & Environment. 'Reasonable Excuse Report – Barwon – Darling 2020/21 Sustainable Diversion Limit Compliance.' Report to the MDBA (2022).

Department of Primary Industries – Fisheries. 'Preliminary report into the 2023 fish deaths in the Lower Darling (Baaka) River: summary of available Fisheries data.' New South Wales Government (2023).

Department of Sustainability and Environment. 'Northern Region Sustainable Water Strategy' Victorian Government (2009).

Duxton Water Ltd. 'Explanatory statement to notice of general meeting.' (8 Sep 2017).

Dwyer, Gavan et al. 'Economic effects of the Commonwealth water recovery programs in the Murrumdigee Irrigation Area.' Report for the Department of Agriculture and Water Resources (2017).

Environmental Defenders Office. 'Submission to the Productivity Commission on the National Water Reform Inquiry.' (2020).

Environmental Justice Australia. 'Margooya Lagoon: Establishing a Cultural Flows Model on Tati Tati Country.' (2021).

Environment Victoria. 'Debasing the Basin Plan: Victoria's pivotal role undermining Australia's effort to save the Murray–Darling.' (2023).

Ernst & Young. 'Analysis of efficiency measures in the Murray–Darling Basin.' Independent Report to the Murray–Darling Basin Ministerial Council (2018).

Melissa Fyfe. 'Brumby's water plan savaged.' The Sydney Morning Herald (28 March 2010).

Grafton, R Quentin and John Williams. 'Thirst for certainty: the urgent need for a water audit of the Murray–Darling Basin.' *Farm Policy Journal* (2019): 14-22.

Grafton, R Quentin and Sarah Ann Wheeler. 'Economics of Water Recovery in the Murray–Darling Basin, Australia.' *Annual Review of Resource Economics* 10, no 3 (2018): 3.1-3.24.

Hansard. 'Senate Estimates – 26 May 2023.' (2023).

Hartwig, Lana D et al. 'Trends in Aboriginal water ownership in New South Wales, Australia: The continuities between colonial and neoliberal forms of dispossession.' *Land Use Policy* 99 (2020).

Hartwig, Lana and Sue Jackson. 'The status of Aboriginal water holdings in the Murray–Darling Basin.' Australian Rivers Institute No 2020/004 (2020).

Heinmiller, B Timothy. 'Multilevel governance and the politics of environmental water recoveries.' *Multilevel environmental governance: Water and climate change policies in Europe and North America.* Cheltenham: Edward Elgar, 2014.

Higham, Jason S. 'An analysis of MDBA modelling outputs for the draft Basin Plan: Hydrodynamic modelling of the Coorong and Murray Mouth.' South Australian Department of Environment and Natural Resources (2012).

Horne, Avril et al. 'Kaiela (Lower Goulburn River) Environmental Flows Study.' The University of Melbourne (2020).

Howard, John. 'Address to the National Press Club.' (25 Jan 2007).

Jackson, Sue and Joe Morrison. 'Indigenous perspectives in water management, reforms and implementation.' *Managing Water for Australia: The Social and Institutional Challenges.* Melbourne: CSIRO, 2007.

Jakeman, Tony et al. ‘Independent Review of the Source Model of the Murray and Lower Darling Rivers (SMM).’ Report for the MDBA (2019).

Kahan, Georgia et al. ‘Using an ecosystem services approach to re-frame the management of flow constraints in a major regulated river basin.’ *Australasian Journal of Water Resources* 25, no 2 (2021): 222-233.

Lyons, Kate et al. ‘Towards a scientific evaluation of environmental water offsetting in the Murray – Darling Basin, Australia.’ *Marine and Freshwater Research* 74, no 3 (2023): 264-280.

Marshall, Graham R and Jason Alexandra. ‘Institutional Path Dependence and Environmental Water Recovery in Australia’s Murray–Darling Basin.’ *Water Alternatives* 9, no 3 (2016): 697-703.

Ministerial Council. ‘Environmental Works and Measures Feasibility Program.’ (24 May 2011).

Moggridge, Bradley and Ross Thompson. ‘Cultural value of water and western water management: an Australian Indigenous perspective.’ *Australasian Journal of Water Resources* 25, no 1 (2021): 414.

Molle, François et al. ‘Hydraulic bureaucracies and the hydraulic mission: Flows of water, flows of power.’ *Water Alternatives* 2, no 3 (2009): 328-349.

Morgan, Monica et al. ‘Indigenous Rights to Water in the Murray – Darling Basin.’ AIATSIS (2004).

Morton, Adam and Graham Readfearn. ‘State of the environment: shocking report shows how Australia’s land and wildlife are being destroyed.’ The Guardian (19 Jul 2022).

Murray–Darling Basin Authority. ‘Authority response to Minister’s request for advice.’ (2023).

Murray–Darling Basin Authority. ‘Basin Plan Water Resource Plan Requirements Position Statement 1B Interpreting ‘have regard to.’’ (2017).

Murray–Darling Basin Authority. ‘Basin Plan Water Resource Plan Requirements Position Statement 6A Change in PEW protection.’ (2017).

Murray–Darling Basin Authority. ‘Basin-wide environmental watering strategy.’ (2019).

Murray–Darling Basin Authority. ‘Guide to the proposed Basin Plan: Technical background.’ (2010).

Murray–Darling Basin Authority. ‘Murray–Darling Basin Ministers Meet in Melbourne.’ *Communique* (2018).

Murray–Darling Basin Commission. ‘Report of the River Murray Scientific Panel on Environmental Flows.’ (2000)

MLDRIN et al. ‘A Pathway to Cultural Flows in Australia.’ National Cultural Flows Research Project (2018).

Natural Resources Commission. ‘Review of the Water Sharing Plan for the Barwon – Darling Unregulated Alluvial Water Sources 2012.’ Final Report (2019)

O’Donnell, Erin et al. ‘Cultural water and Indigenous water science.’ Science 381 no 6658 (2023): 619-621.

Pittock, Jamie and Matthew Colloff. 'Victoria's plans for engineered wetlands on the Murray are environmentally dubious. Here's a better option.' The Conversation (20 April 2023).

Pittock, Jamie et al. 'Evidence-Based Conservation of the Northern Victorian Floodplains.' *Proceedings of the Royal Society of Victoria* 134, no 2 (2023): 108-115.

Porter, JL et al. 'Eastern Australian Waterbird Aerial Survey – October 2022 Annual Summary Report.' University of NSW Center for Ecosystem Science (2022).

Productivity Commission. 'Market Mechanisms for Recovering Water in the Murray–Darling Basin.' Final Report (2010).

Productivity Commission. 'Murray–Darling Basin Plan: Five-year assessment.' Inquiry Report (2018).

Productivity Commission. 'National Water Reform 2020 Inquiry Report no. 96: Water entitlements and planning.' Inquiry Report (2021).

Ryan, Albie et al. 'Flow to nowhere: the disconnect between environmental watering and the conservation of threatened species in the Murray–Darling Basin, Australia.' *Marine and Freshwater Research* 72 (2021): 1408-1492.

Roberts, Jane and Frances Marston. *Water regime for wetland and floodplain plants: a source book for the Murray–Darling Basin.* Canberra: National Water Commission, 2011.

Rutherfurd, Ian D et al. 'Human impacts on suspended sediment and turbidity in the River Murray, South Eastern Australia: Multiple lines of evidence.' *River Research and Applications* 36, no 4 (2020): 522-541.

Scanlon, John. 'A hundred years of negotiations with no end in sight: Where is the Murray – Darling Basin Initiative leading us?' *Environmental and Planning Law Journal* 23, no 5 (2006): 386-410.

Schweizer, Vivienne et al. 'The Dammed and the Saved: a Conservation Triage Framework for Wetlands under Climate Change in the Murray–Darling Basin, Australia.' Environmental Management 70, no 4 (2022): 549-564.

Slattery, Maryanne and Bill Johnson. 'Submission to the Murray–Darling Basin Plan: Implementation Review 2023.' Productivity Commission Inquiry (2023).

Slattery, Maryanne and Bill Johnson. 'Water recovery and 'over recovery' in the Macquarie valley.' Report for Inland Rivers Network (2021).

Slattery, Maryanne and Rod Campbell. 'That's not how you haggle… Commonwealth water purchasing in the Condamine Balonne.' The Australia Institute (2018).

Slattery, Maryanne and Rod Campbell. '#WaterMates: The buyers and sellers of Australia's most controversial water.' The Australia Institute (2019).

Stewardson, Michael J and Fiorenzo Guarino. 'Basin-scale environmental water delivery in the Murray–Darling, Australia: A hydrological perspective.' *Freshwater Biology* 63 (2018): 969-985.

Thiem, Jason D et al. 'A protected flow breaks the drought for golden perch (Macquaria ambigua) spawning along an extensive semi-arid river system.' *Ecohydrology* (2023).

Todd, Charles R et al. ‘Does environmental water management promote invasive fish? Modelling the response of common carp (Cyprinus carpio) to natural and managed flows using a stochastic population model.’ Biological Invasions (2023).

Vertessy, Robert et al. ‘Final report of the Independent Assessment of the 2018-19 fish deaths in the lower Darling.’ Report for the Department of Agriculture and Water Resources (2019).

Victorian government. ‘Implementation of the Murray–Darling Basin Plan 2023: Information request, Victoria.’ Submission to Productivity Commission (2023).

Victorian government. ‘Notice by the Victorian Government under Section 43A(4) of the Water Act 2007.’ Ministerial Council (9 July 2012).

Walker, Bret SC Commissioner. ‘Murray–Darling Basin Royal Commission Report.’ (2019).

Wentworth Group of Concerned Scientists. ‘Assessment of river flows in the Murray–Darling Basin: Observed versus expected flows under the Basin Plan 2012-2019.’ (2020).

Wheeler, Sarah Ann. ‘Debunking Murray–Darling Basin water trade myths.’ *Agricultural and Resource Economics* 66, no 4 (2022): 797-821.

Wheeler, Sarah Ann et al. ‘Identifying the water-related economic values of the Murray–Darling Basin and rating the quality of water economic studies.’ Report for the Murray–Darling Basin Authority (2023).

Wheeler, Sarah Ann et al. ‘Modelling the climate, water and socio-economic drivers of farmer exit in the Murray–Darling basin.’ *Climatic Change* 158 (2020): 551–574.

Wheeler, Sarah Ann et al. ‘Submission to the Murray–Darling Basin Royal Commission.’ (2018).

Whittle, Linden et al. ‘Economic effects of water recovery in the Murray–Darling Basin.’ ABARES Insights 7 (2020).

Williams, John and R Quentin Grafton. ‘Missing in action: possible effects of water recovery on stream and river flows in the Murray–Darling Basin, Australia.’ *Australasian Journal of Water Resources* 23, no 2 (2019): 78-87.

Wittwer, Glyn. ‘Modelling variants of the Murray–Darling Basin Plan in the context of adverse conditions in the Basin.’ Report for the Panel for the Independent Assessment of Social and Economic Conditions in the Murray–Darling Basin (2020).

Young, Mike and Jim McColl. ‘The unmentionable option: Is there a place for an across-the-board purchase?’ CSIRO (2009).

Young, WJ et al. ‘Science Review of the Estimation of an Environmentally Sustainable Level of Take for the Murray–Darling Basin.’ CSIRO (2011).

Supplementary submission to MDBA Basin Plan evaluation 2025 on behalf of

Murray–Darling Conservation Alliance

The Murray–Darling Conservation Alliance members include Nature Conservation Council of NSW, Environment Victoria, Queensland Conservation Council, and Conservation SA. To answer questions for this evaluation, we previously sent our submission to the Restoring Our Rivers amendments Senate Inquiry. However, that submission did not cover two key questions 'What has worked well?' and 'Did anything unexpected happen?'

This supplementary submission provides a response for the 'Peak Bodies Response Summary'. Because it is aimed at filling gaps in that summary, we've kept answers brief.

What has worked well?

The *Water Act*, Basin Plan and the MDBA themselves are critically important. They represent a crucial national framework for state governments and the Commonwealth to manage rivers that cross state borders. The existence of the Basin Plan – and the forums created through it – has progressed cooperative federalism and helped to shift water management beyond narrow parochial interests.

The Plan's target of 3200 GL recovered does not align with the 'best available science' of what is actually needed for improving ecological health and was created through a process of political compromise. Further, only about two-thirds of this water has been recovered, and the slow progress of constraints relaxation has made it difficult to realise the full environmental benefits.

As a result, measurable environmental benefits are local, site specific and limited to the upper catchments of regulated rivers.

Research by the scientists in the Wentworth Group, published in *Marine and Freshwater Research* (May 2024),[1] analyses whether the Basin's environmental requirements have been achieved over the last 43 years. Within this period, the research found that only 26% of the water requirements examined have been met since the Basin Plan was enacted a decade ago (2012-2022):

'There were some improvements in achievement of environmental flow requirements during the Basin Plan years. In particular, we observed increases in

[1] Sheldon Fran, Rocheta Eytan, Steinfeld Celine, Colloff Matthew J., Moggridge Brad, Carmody Emma, Hillman Terry, Kingsford Richard T., Pittock Jamie (2024) Are environmental water requirements being met in the Murray–Darling Basin, Australia. Marine and Freshwater Research 75, MF23172. https://doi.org/10.1071/MF23172

small freshes or flows in the southern Basin, where environmental water was delivered. These findings are consistent with other studies which demonstrated the benefits of water delivered to ecosystems: these include protecting freshwater species and maintaining core floodplain wetland habitat inundated by environmental flows. However, a more detailed examination of results over the decades showed a declining trend with respect to achievement of environmental water requirements at most locations.This trend includes growing water resource development before the Basin Plan, making it increasingly difficult to meet the environmental water requirements.'[2]

This failure is a reflection of how the original vision was diminished by a lower recovery target, and then undermined by a decade of stalled implementation. To quote another recent paper (Koehn, 2024): 'reductions in the amounts of environmental water recovered, pauses in Basin Plan implementation and neglecting to account for the consequences of climate change [which] have postponed any major environmental improvements.'[3]

Note the word *postponed* – major environmental improvements can still be achieved, if the Plan is allowed to be delivered in full, including crucial work to relax constraints. Positive revisions to the Plan – for example, accounting for climate change – would, if properly implemented, allow for even greater environmental benefits.

Environmental Water Advisory Groups consisting of community members and agency representatives are a very good way to plan for the delivery of environmental water. State and Commonwealth-owned environmental water being used as one 'bucket' has worked well in some catchments e.g. the Macquarie. Greater environmental outcomes are possible when the two portfolios are managed together, and processes streamlined.

MDBA Peak Body meetings are useful for stakeholders to share their concerns and areas of priority. The timetable of four meetings per year is appropriate timing.

Did anything unexpected happen?

1. The volume of floodplain harvesting and its ecological impact

While the licencing of floodplain harvesting in NSW was not unexpected, the volumes that were licenced and the generous carry over rules and rainfall run exemptions were highly unexpected. The rules that manage FPH allow for up to five times the licence entitlement to

[3] Koehn, John D. 'Restoring sustainability to Murray–Darling Basin freshwater fish and aquatic ecosystems.' A thriving Murray–Darling Basin in 50 years: Actions in the face of climate change (2024): 168-197.

[2] https://wentworthgroup.org/wp-content/uploads/2023/09/MDB-EWR-Report-8-Sept-2023-1.pdf

be taken in a given year. The rainfall run off exemptions allow for the capture of rainfall runoff that is unmetered and unlicenced. To allow this large volume of new extraction to be licenced, the Baseline Diversion Limit and the Sustainable Diversion Limit in the five catchments were increased outside of the parliamentary process.

Nature Conservation Council of NSW, a member of the Conservation Alliance, has provided more details on floodplain harvesting in its submission to the evaluation.

2. The sheer scale of fish kills, and decline of native species like the Murray Cod

The frequency, intensity and scale of mass fish kills in the Lower Darling – and the subsequent effects on numbers of Murray Cod in extensive reaches of the Darling (Baaka) is devastating.[4]

3. The scale of development of permanent horticulture in the lower Murray beyond ecological limits

Again, the shift of water use to higher-value crops downstream was not entirely unexpected within the market logic of water going to its 'highest value use'. But the scale of this development and the growth in almond plantings goes well beyond estimated water availability in future dry years, and stretches deliverability.

4. Governments and the MDBA have failed to make the case for the Basin Plan in regional areas, resulting in persistent myths about the socio-economic impacts of water recovery

We expected greater efforts from governments and the MDBA to defend efficient and effective water recovery methods, such as open-tender purchases. In the absence of this advocacy, we have a situation where public perception of the socio-economic impact of water recovery does not match the evidence base.

Credible peer-reviewed economic research indicates that there are many factors (climate and rainfall, terms of trade, to name just a few) behind water allocation prices and farmers exiting irrigation, and that environmental water recovery only has a marginal impact. And yet the public perception – especially as portrayed in the media – is that buybacks are *solely* responsible for a damaging 'Swiss cheese' effect and for regional decline in general. This is based on spurious claims in reports from political consultancies that have been ranked as 'low quality and unreliable to be used in policy advice'.[5]

Most of the impacts have been from water reform that occurred simultaneously with, or prior to, the Basin Plan e.g. (unbundling and the financialisation of water). But the MDBA has not publicly clarified that a process beginning several decades earlier is one of the causes behind impacts often attributed to the Basin Plan. This lack of clarification creates a vacuum which vested interests can exploit to peddle myths.

The lack of pushback from the MDBA on these claims in a public forum has been surprising and disappointing. The Basin Plan requires 'best available scientific evidence' and this principle should be applied to socio-economic research as well.

This also extends to selling what the Basin Plan stands to deliver with relaxed constraints. We are surprised the MDBA and relevant government authorities (such as CEWO) haven't made more strident and frequent public arguments about the benefits of the Basin Plan if delivered in full.

5. **Loopholes that allow the SDL to be increased**

The decision by the MDBA to maintain a constant relationship between the BDL and SDL

creates risks. For example, if the BDL is re-assessed, estimating a higher level of historical take, then the SDL will also increase – both theoretically pivoting around the 2750 GL water recovery figure. An increase to the SDL changes the balance of water in the system – the environment's share and the annual permitted take allowed for consumptive use.
Because the SDL can be changed at any time with new information, without community consultation or Parliamentary scrutiny, it has been increased by 331.2 GL.[6] This increases allowable take, undermining the security of water that has been recovered for the benefit of the environment.

6. The disparity between expected and observed flows

There has been a significant disparity between the water expected each year under the Basin Plan and actual river flow at key sites. Concerningly, 20% of the water expected was

[6] Slattery, Maryanne and Bill Johnson. 'Submission to the Murray–Darling Basin Plan: Implementation Review 2023.' Productivity Commission Inquiry (2023). p.8

[5] Wheeler S, Xu Y., Zuo A., Haensch J., Seidl C. (2023) Identifying the water-related economic values of the Murray–Darling Basin and rating the quality of water economic studies. Report for the MurrayDarling Basin Authority. p.88

not received.[7] This shortfall may be attributed to drier than expected conditions, higher conveyance requirements because of those conditions or because of large irrigation orders further from storages, inadequate rules protecting environmental flows and improper accounting.

For any further questions, please contact:

National Irrigators' Council
Food · Fibre · Future

15 March 2024

Ms Megan Winter
General Manager, Basin Plan Implementation Program
Murray Darling Basin Authority
Canberra
C/-Engagement@mdba.gov.au

Sent via electronic mail.

Dear Megan,

Re: National Irrigators' Council responses to the 2025 Basin Plan Evaluation Questions

The National Irrigators' Council has approached the answering the evaluation questions, to provide new insights, other than those already provided through formal means to date. We have provided attachments of the most recent submissions, which outline much of the detail behind our summaries below.

It does remain unclear at this point, how the information being gathered from peak bodies, will be used as another line of evidence for the Murray Darling Basin Plan evaluation. Further information on the weight and value of various lines of evidence is requested.

We are aware the MDBA has established a range of other advisory groups and independent reviewers, none of which include an industry representative member. Whilst the Basin Communities Committee has input, they do not have the same level of advice status as other groups such as the Advisory Committee on Social, Economic and Environmental Science (ACSEES). It seems, industry and regional communities, have no formal role in the current Murray Darling Basin Plan evaluation until such time, that all other parties have provided their input.

We do not see this current evaluation request, as addressing this inequity between information sources. We call on the MDBA to do better, otherwise the evaluation will not deliver on the full breadth of the lived experiences and the science.

As part of the process of completing these questions, we provided a short eight question questionnaire to members to help inform our responses.

Question 1: What has not worked well?

In summary the key areas that have not worked well and they are presented in order of response from our NIC member survey:

- Implementation of Government-led programs such as SDLAM 605GL supply measures, constraints, and off-farm efficiency measures to contribute to the 450GL program.
- Transparency on decision-making.

- The significant cost to community resilience and balance, which has not been achieved for irrigation-water dependent communities.
- Inability to build trust and confidence in water management.
- Engagement with communities, particularly around their lived experience in terms of the socio-economic impacts of different forms of water recovery.
- Consultation and engagement with a broad range of stakeholders.
- Certainty and security for communities or irrigators has not been enhanced.
- Uncertain water market reform.

During the survey we asked members to consider up to three elements of the Basin Plan that concern them the most. The three highest rated responses were the scale of shortfall risk, the use of buybacks as a key method of water recovery and how to achieve balance for irrigation-water dependant communities.

Using more current information, some of these areas are expanded on below.

Government accountability

Given the recent changes required by legislative amendment of the Murray Darling Basin Plan through the Restoring our Rivers Bill 2023, a failure in implementation has occurred. This rests, with the Australian Government and, New South Wales and Victorian governments, where implementation of supply measures and constraints remain behind schedule, and for the Australian Capital Territory, New South Wales, and Queensland for the shortfall components of the bridging the gap. Whilst all Basin jurisdictions should take accountability for the slow progress on efficiency measures program for the 450GL of additional environmental water for enhanced environmental outcomes.

Barriers and failure in government implementation was clearly a theme of the Productivity Commission's Final Report into the 5-year implementation of the Murray Darling Basin Plan.

How governments implement the new suite of options now available due to the legislative amendments and demonstrate their strategy, accountability, and planning, as well as, how they consider socio-economic impacts as part of these measures is critical in moving forward and making progress.

Government accountability also extends to how environmental water users determine to use water and if it is efficient and effective, just as irrigators must be. Monitoring of the effectiveness of water actions is limited to key icon sites and not all watering actions are evaluated. It is becoming apparent that while there are multiple levels of regulatory compliance for water users, the same scrutiny does not apply to all environmental water. There is also no course of action for landholders when they do not agree or support, water delivery actions by environmental water holders which may impact their land. Thus suggesting that the current 'good neighbour policy' is not enough, to protect neighbours impacted environmental water deliveries or hold the decision makers to account.

Limited adaptability

It is often said the Murray Darling Basin Plan is adaptable. However, with a singular focus on progress towards water recovery targets, rather than outcomes industry has found it rigid. Whilst amendments have occurred these are often regarding how to recovery water rather than a genuine look at the outcomes, the purpose of the water recovery, and if targets remain valid. The failure to consider investment or the inclusion of complementary measures is an example of its inflexible design.

This has also been an ongoing theme for the Productivity Commission. Reporting in their final report:

"The Commission previously raised concerns about the assumptions underpinning the program to recover the additional 450 GL/y, including: the lack of any review point to assess the feasibility of the 'enhanced environmental outcomes' in schedule 5 of the Basin Plan

(particularly with changes to the parameters of constraints-easing measures), the absence of catchment-specific water recovery targets, and the value for money of the overall program (PC 2018; chapter 5).

These concerns remain valid. Following the 2026 Basin Plan review, the feasibility, and costs of recovering water in pursuit of the schedule 5 outcomes should be reassessed by the Australian Government."

The current focus of the Department of Climate Change, Energy, Environment and Water on the 450GL additional environmental water program despite the unlikely completion of required constraints projects, highlights both the inflexible nature of the Plan and how, Governments are missing the mark in terms of focusing on core priorities.

Consultation

A common issue has also been transparency in decision making, and how consultation and engagement with communities informs decisions. Often it is unclear how input from communities is considered by decision makers or if government cares about the impacts because of their decisions. A process to incorporate the experiences of communities, into the science and data is required by the MDBA to demonstrate how their views matter.

More recently. Government consultation has moved to online events where participants are talked at rather than two-way opportunities. This is a non-inclusive approach to consultation and community members do not support it.

Question 2: What has worked well?

Within the known physical constraints and current shortfalls, key performance indicators for salinity and the Lower Lakes, as well as compliance with Sustainable Diversion Limits and accountability of these, is being achieved. It could be argued that the Basin Plan has addressed the concerns of over-use which led to its development in the first place. These outcomes, however, has not contributed to building trust and confidence in water management.

Potentially given the trend in water use over-time presented below in Figure 1. There is consideration that the cumulative impacts of a range or reforms and changes in irrigator behaviour, is resulting in ongoing under-use not over-use. Does this mean the Plan is working, or perhaps, has the adjustment been too severe, undermining our future productivity.

The Basin Plan has resulted in additional flows to the environment, in the form of long-term equivalent entitlement which has resulted in 72% of flows on-average for the environment. There are improved environmental outcomes because of this additional water. However, further analysis is needed to determine the attributable benefit from the Basin Plan versus the current good flows, driven by climate. The previous evaluation fell short of this differentiation.

If the Basin Plan were amended to include complementary measures for riparian habitat and restoration, rather than a focus on volumetric water recovery alone, the overall outcomes achieved for specific species, such as native fish could be enhanced.

As anticipated, survey results from members were very mixed, with some outlining there were no benefits or only average environmental benefits at all. The highest scoring element that worked well was that the on-farm efficiency program when combined with other investments worked well, allowing farmers to adapt to less water and providing multi-level benefits. However, the likely scope of further on-farm efficiency measures as a form of recovery is limited as many of the improvements have now already been made.

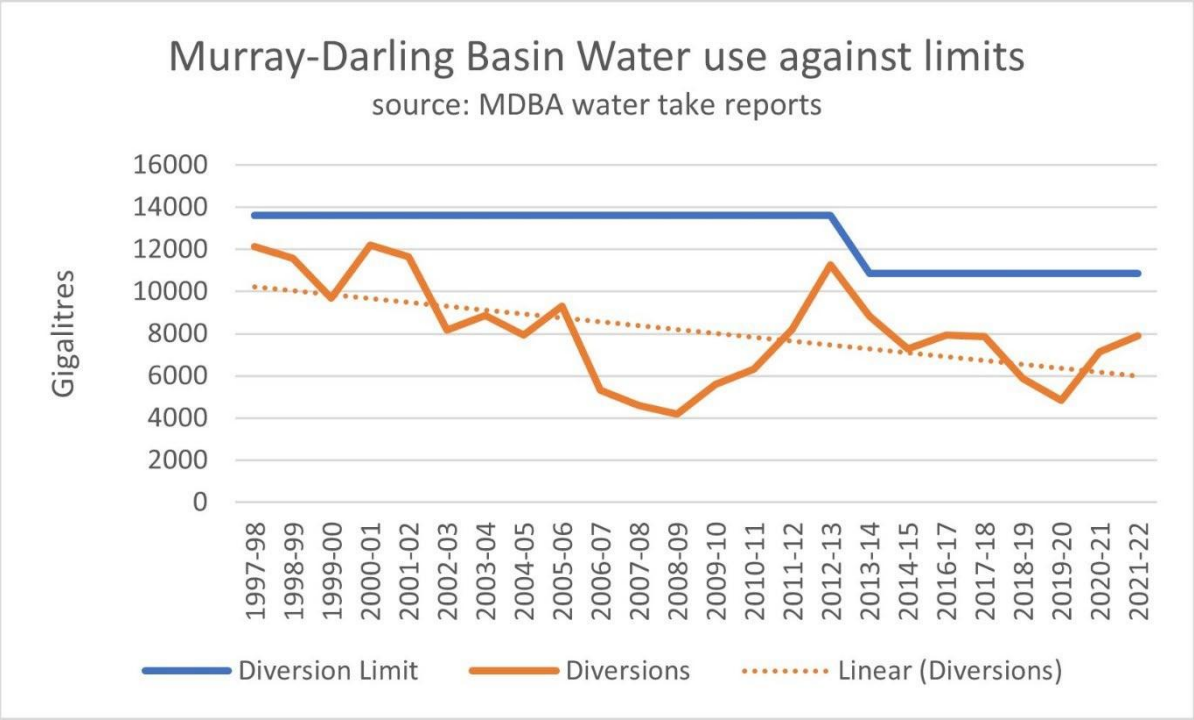

Figure 1: Trend of water use against limit in the Murray –Darling Basin.

Question 3: Did anything unexpected happen?

Acceptance and good will.

Unexpectantly, many individuals and communities had grown to live with the Plan and even celebrate many of the environmental benefits and outcomes of the Plan. They were of the view; their role was complete, and that Governments had a responsibility for the remaining elements of supply, constraint and off-farm efficiency measures, as outlined below in Figure 2.

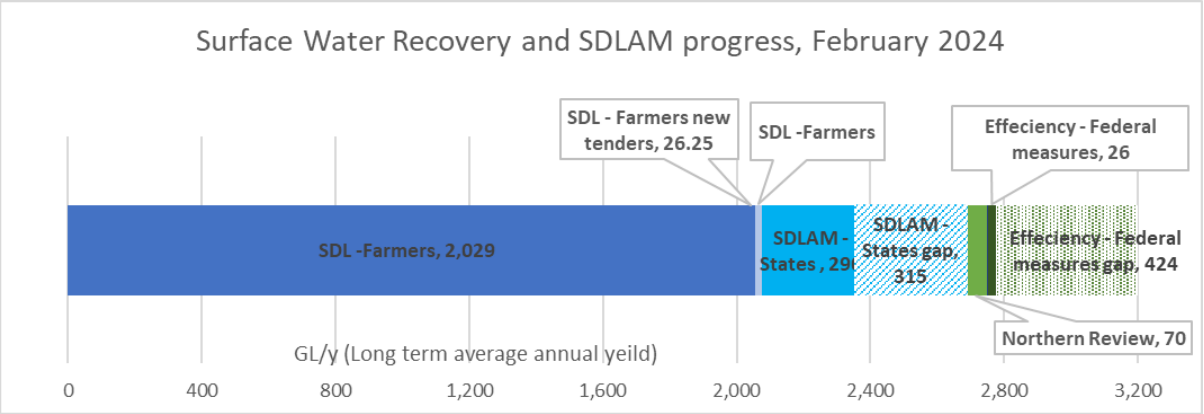

Figure 2: Updated progress of the Basin Plan following the Bridging the Gap Tender outcomes in February 2024 – adapted from PC, Report.

That was until the Restoring our Rivers Bill enabled changes to the Basin Plan, which increased the uncertainty and risk of further water recovery from farmers and appeared to further entrench the Plan's focus on numbers rather than outcomes. Thus, reigniting concerns from earlier implementation about the localised and community impacts of water recovery, the purpose of the Basin Plan and its ability to deliver on its outcomes of balance.

This has undermined the good will that had been building in communities. Partly delivered through the earlier amendments to the Basin Plan that reflected the lessons learned such as the Sustainable Diversion Limit Adjustment Mechanism for 605GL, the northern review, the socio-economic neutrality tests, and a maximum limit on buybacks. Many of these are now removed with the recent Restoring our Rivers amendments.

As a result, and not unexpectantly, there is increased uncertainty how those past lessons are being considered by the agencies in the future implementation. We highlighted this in our submission to the Department of Climate Change, Energy, Environment and Water on their draft 450GL Framework for additional environmental water have contributed to a loss of good will with communities.

Exclusion of complementary measures

As outlined previously, despite the messaging that the Basin Plan would be adaptive, it has remained singularly, focused on recovery volumes and targets and not environmental outcomes. Again, some of the Restoring our Rivers Bill amendments, the ongoing exclusion of complementary measures and the focus on the 450GL recovery, rather than the core plan priorities of Sustainable Diversion Limits, further reinforce the view.

The science is clear about the required benefits of a range of other measures to improve riverine health, water quality and native fish populations but the Basin Plan unexpectedly still does not seek to include these measures.

Question 4: What/where/how could we do better?

The views and information on what have not worked, provide the starting point as with the myriad of submissions over-time on how the Basin Plan can be improved.

Key themes from members through the survey reinforced that improvements could be:

- A focus on outcomes for social, economic, and environmental factors rather than water alone.
- Recognition and investment in complementary measures.
- Evidence that community and regional experiences matter and how local knowledge is used by decision makers.
- Ground truthing of science.
- Flexibility in implementation and adaptation, without undermining community and industry confidence.
- Optimisation of the environmental water already owned – efficient and effective use of all water must occur.
- Facts, trust, and transparency of decision making.
- Engagement of all stakeholders without prioritisation.
- More listening, less talking.

Ends.

For more information, please contact:

[redacted]

Information/references catalogue – new information since last evaluation			
Name of report or information?	Who is the Author or owner of this information?	Where is this information located (provide links or attach)?	Is this information publicly available. If not, are there any sensitivities we should be aware of?
Submission into the Productivity Commissions Interim Report on the 5year Implementation Review of the Basin Plan	National Irrigators' Council	Attached	Public
Submission into the Senate Legislative Committee on Environment and Communications – Restoring our Rivers Bill 2023	National Irrigators' Council	Attached	Public
Submission into the draft framework for 450GL of additional environmental water	National Irrigators' Council	Attached.	Public
Final Report into the 5year review of the Implementation of the Murray Darling Basin Plan	Productivity Commission	Online	Public

Background

The Murray–Darling Basin Plan (the Basin Plan) was developed to improve the health of rivers and floodplains by putting aside water for the environment. The environmental objectives for the water dependent ecosystems of the Murray–Darling Basin are:

a) to protect and restore water-dependent ecosystems of the Murray–Darling Basin; and

b) to protect and restore the ecosystem functions of water dependent ecosystems; and

c) to ensure that water dependent ecosystems are resilient to climate change and other risks and threats.

Water for the environment is being used in parts of the Basin to improve the health of its rivers, wetlands, floodplains, and plant and animal habitats. Water for the environment alone cannot achieve the environmental objectives in the Basin Plan. In 2016, Basin Water Ministers agreed that officials would advise on opportunities and a process to enable a wider range of environmental projects to provide triple bottom line benefits under the Basin Plan. This concept is known as 'complementary measures'. Complementary measures do not provide water offsets or an offset volume, but rather assist in improved environmental outcomes through a range of other interventions.

While there is funding provided by State and Federal Governments for activities that align with delivering complementary measures there is no specific funding to directly accelerate these actions.

Examples of complementary measure are:

- complementary measures that could maximise the benefits of water for the environment:
    - planning activities to broaden and integrate waterway management strategies with environmental water management plans
    - restoring the connectivity between waterways and the floodplain
    - protecting and restoring a diverse range of riverine and wetland habitats
    - improving water quality and habitat
    - conserving and enhancing target species of flora and fauna
    - managing weeds, pests and overgrazing.
- complementary measures to build community support:
    - involving local communities and traditional owners
    - working with local aboriginal groups
    - implementing collaborative management programs with stakeholders and neighbours
    - informing local communities.

Actions could include:

- Adaptive management
- Addressing salinity/improved water use efficiency
- Community engagement • Enhancing fish passage.
- Enhancing nutrient cycles.
- Improving sediment transport (erosion management).
- Instream habitat restoration.
- Rationalising redundant infrastructure.
- Reconnecting rivers to floodplains and wetlands.
- Re-establishing threatened species.
- Riparian management activities.
- Sustainable agricultural irrigation infrastructure.
- Traditional owner partnerships.

Some jurisdictions have developed detailed plans outlining potential complementary projects that could be invested in. These all fit under the auspice of regional NRM plans that are bottom-up plans describing the natural assets of a region/catchment, their threats and risks, and targets for on ground activities that will build the health and resilience of these landscapes.

Problem statement

Social licence

The Basin Plan needs to meet the community's needs – for the environment, our farmers, regional towns and Aboriginal people. It needs to sustainably managing the waters in an integrated way that supports communities. It needs to be deliverable and it also needs to be adaptable. The Basin Plan continues meet challenges, with substantial and sustained opposition from many regional communities. It is critical for the long-term success of the Plan that its ''social licence'' be built. Demonstrating that the water recovered for the environment is being used as efficiently as other users is critical for rebuilding the social licence.

Basin Plan objectives

Cresswell et al. (2017) state that developing an integrated package of proven basin-wide complementary measures, implemented along with existing investment in water recovery, would significantly enhance the capacity of the Basin Plan to meet ecological objectives.

The Murray Darling Basin Authority (MDBA) has previously described the benefits of investing in complementary measures. For example, the MDBA Nave Fish Strategy 2003 –2013 shows that the cumulative benefits of investing in complementary works and measures delivers almost twice the benefits as environmental flows alone in terms of recovering fish populations to pre-European levels.

Another example is the Northern Toolbox Projects, such as the Northern Basin Riverbanks project run by Southern Queensland Landscapes. This is a $7.5M project that from 115 applications, is funding 66 land managers to fence 538km and install off-site watering points across 5 catchments covering 315,000 square kilometres and protecting 50 native fish species.

The recovery of water to date has caused significant socio-economic costs in some local irrigation communities. Complementary works and measures will deliver additional environmental outcomes will minimise the need to recover additional water for the environment, increasing certainty for irrigators and therefore supporting regional economies and jobs.

The previous productivity Commission report in 2018 made a recommendation that:

Basin States should manage the risks to achieving the environmental watering objectives set out in long-term watering plans by delivering complementary waterway and natural resource management measures (such as habitat restoration or weed and pest control).

The joint Basin government response agreed with the recommendation and stated:

The Australian Government and Basin state governments recognise that providing water is in itself not necessarily enough to secure environmental outcomes. Basin state legislation anticipates that water planning should have regard to other natural resource management planning and vice versa. Basin state governments continue to adapt their programs and resources to enhance this intent.

Risks to the Basin Plan's ecological outcomes can be mitigated by increasing the volume of environmental water. However, effective mitigation of ecological risk also requires non-flow measures such as control of pest plants and animals in rivers and wetlands (e.g. carp, weeds, foxes) and river and wetland restoration projects.

Considerable work is planned or underway on a range of complementary environmental projects as part of the Basin Plan's processes, such as environmental works and measures in the northern Basin (eg. the Northern Basin Riverbanks Project), environmental works and measures through the SDL adjustment mechanism and state priority projects.

While the States are delivering complementary measures to manage risks there needs to be more done to achieve the Basin Plan objectives. This needs to be a partnership between the Australian Government, State and Territory Governments and the community.

Implementing complementary measures would lead to the following outcomes:

- protected and restored water dependent ecosystems
- reduced need to recover additional water for the environment
- increased certainty for irrigators and communities
- increased opportunities to protect and enhance Aboriginal cultural values and employ Aboriginal people
- improved water quality
- growth in recreational fisheries
- contribution to heathy and productive catchments.

Conclusion

Water for the environment alone cannot deliver the objectives of the Basin Plan alone particularly given the ongoing and evolving impacts of climate change, biosecurity threats and land use change.

We recommend that a detailed complementary measure plan be developed with the relevant Basin States and Territories.

We recommend that funding be provided through regional NRM organisations to deliver these complimentary measures with their communities, consistent with the relevant Regional NRM Plans and supporting action plans.

Yours sincerely,

[redacted]

[redacted]

[redacted]

Suite 901, Level 9, 276 Pitt Street,
Sydney NSW 2000

PO Box Q640,
Queen Victoria Building NSW 1230

NEW SOUTH WALES IRRIGATORS' COUNCIL

Tel: 02 9264 3848

nswic@nswic.org.au

www.nswic.org.au

ABN: 49 087 281 746

Responses to the 2025 Basin Plan Evaluation Questions: *by COB 14 March 2024.*

NSW Irrigators Council

[redacted]

NSW Irrigators' Council refers the MDBA to the many submissions and reports the NSWIC has written that provide answers to the questions asked in this template. A comprehensive, but not inclusive, list is provided in the table below; there have been simply too many over the years to capture them all.

We also refer the MDBA to the reports and recommendations from more than 20 inquiries since 2012, including the 2020 Independent Panel Assessment of Social and Economic Conditions in the Murray Darling Basin (the Sefton Report) and the Productivity Commission's reviews of Basin Plan implementation in 2018 and 2023.

Below are some additional comments in answer to the four questions in this template.

Question 1: What hasn't worked well?

1. MDBA bias on engagement and consultation.

NSW Irrigators' Council acknowledges the MDBA says it is collecting Basin community/groups evidence through a variety of ways such as:

- Regional Community Forums Report
- Peak Groups Report
- Looking Back to Move Forward Report
- Basin Community Perspectives Report.

The MDBA says the Basin Community Perspectives Report will specifically draw on information such as previous Commonwealth submission processes from the Productivity Commission, Department for Climate Change, Energy, the Environment and Water, Senate Inquiries and the Sefton Review.

It says it will cast a wide net around regional engagement activities, Sir Angus Listening Tours, other MDBA Tours, the River Reflections Conferences, Peak Groups Briefings and Regional Community Forums – and that all information will be assessed in addressing the evaluation questions.

The perspectives report will no doubt capture ''what we heard'' – but the question is how the MDBA will assess its validity as evidence to inform the final Murray–Darling Basin Plan 2025 Evaluation?

The MDBA's Evaluation framework is not encouraging. At face value, it is predisposed to devalue the evidence provided by industry, communities and local government and their lived experience as merely 'perspectives'. This is evident in advisory panels, such as the ACSEES and the EAP, being made up almost entirely of academics living outside the Basin. It is also evident in the MDBA commissioning and publishing a literature review by Adelaide University's Professor Sarah Wheeler last year that rated the quality of water economic studies. It concluded academic studies are the most credible, followed by some work by some government agencies. Research, analysis and modelling by expert consultants, industry, Basin community and local government were deemed to be least credible.

In the absence of the MDBA publicly acknowledging that remote macro analysis and modelling by academics and government agencies cannot capture localised socioeconomic impacts, the Wheeler report can be understood to indicate the weighting the MDBA will give to the multiple lines of evidence informing the Evaluation.

This is a long-standing issue. The Productivity Commission and the Sefton Report, among many others, have highlighted the persistent lack of meaningful engagement with Basin stakeholders since the Plan's inception, whether by the MDBA or government departments and agencies. Stakeholders are constantly 'engaged', but do not see their feedback taken seriously and influencing decisions.

The exception was the MDBA's community profiles for the northern and southern Basin in 2016 and 2018, where communities felt they were properly heard for the first time. However, DCCEEW last year went to some trouble to discredit those analyses when cited by industry, in its briefings to the Water Minister during the debate over the *Water Amendment (Restoring our Rivers) Bill 2023*. The MDBA does not appear inclined to defend the analysis in the profiles.

The 2025 Basin Plan Evaluation framework indicates little will change, with what distant academics and public servants say is happening in Basin communities carrying more weight than what the people actually living in those communities say.

If this is not how the MDBA intends to weight the 2025 Basin Plan evaluation, then it needs to demonstrate it will break from that entrenched internal culture.

2. The lack of transparency

NSWIC has been asking MDBA staff for several years now for more information on how the MDBA intends to assess the socio-economic impacts of the Murray Darling Basin Plan in its 2025 Evaluation.

Details sought have included indicators, assumptions, the types of economic models, the impact timeframes (i.e. from when buybacks started in 2008, or from when the Plan was enacted in November 2012), from whom is the MDBA is commissioning research and analysis, and how it will weight multiple lines of evidence as described above.

No tangible information or insight has been forthcoming.

Similarly, nothing has been released to provide any public insight into how the ACSEES or EAP or any other advisory panels are directing the MDBA's Basin Plan Evaluation research and analysis, much less any information on interim research findings whether environmental, climate change, cultural or socioeconomic.

The Basin Plan Evaluation Report is a crucial step that will inform the 2026 Basin Plan review. Basin communities, local government and industry – particularly those bearing the brunt of this reform through its singular focus on water recovery -- should not be kept in the dark like this.

3. Accountability in environmental watering

Irrigators are held to account for every drop of water they divert through the Inspector-General for Water Compliance and state compliance agencies such as the NSW Natural Resources Access Regulator (NRAR) and WaterNSW. Irrigators and IIOs are also expected to demonstrate continuous improvement in efficiency of use.

The Commonwealth Environmental Water Holder is under no such scrutiny, nor held accountable for whether it is using the water purchased for billions of taxpayers' dollars, efficiently and effectively.

A case in point in the Gwydir valley west of Moree: NRAR demanded that landholders remove a low bank that ran alongside an ephemeral waterway feeding into the Ramsar wetlands. NRAR said the structure, which had been there for many decades, was unauthorised.

The result is environmental water released down that waterway now just spreads out across dryland cropping fields and never makes to the wetlands. In fact, even in the last three years of widespread flooding, no water has made it to that part of the wetlands because the bank was removed.

Instead, flows have repeatedly spread out across and waterlogged fields so farmers have lost crops. None of the landholders are irrigators – they are dryland croppers. They do not want any extra water. No ecological function or environmental benefit is served by environmental water spreading across their fields instead making it down to wetlands where it can support habitat, and feeding and breeding conditions for native species.

4. Singular focus on water recovery alone

The overwhelming failure of the Basin Plan since its inception is its singular focus on water volume alone, rather than optimising environmental outcomes in a manner that minimises social and economic harm.

So much more could have been achieved for the Basin environment, if the $13 billion had been used to fund complementary measures across the Basin alongside strategic water recovery, and in general a holistic approach to water management had been pursued.

The old Sustainable River Audits were based on five themes indicating ecosystem health: Fish, Macroinvertebrates, Vegetation, Physical Form and Hydrology. They were chosen for their significance in river ecosystems, their sensitivities to interventions and their linkages to other features of river ecology. Each is amenable to sampling and measurement using proven methods.[132]

Yet, the Murray –Darling Basin Authority deliberately chose just one theme – hydrology, specifically end of system flows – to be the proxy indicator of ecosystem health, and ignored the other four. This led to a water recovery targets being set as the sole tool to meet Basin Plan objectives. The MDBA was warned at the time against this narrow focus in industry and other submissions during the development of the Basin Plan from 2008 to 2012.

[132] sustainable-rivers-audit-summary.pdf (mdba.gov.au)

And now it is evident that this "just add water" approach is not delivering the kind of catchment and Basin-scale step change in water quality, habitat quality and extent, and ecosystem functions that Australians should expect for the investment of $13 billion of taxpayers' funds (and still spending).

Had complementary measures to support the other four SRA themes been funded alongside strategic water recovery over the last 16 years, the rivers would be much better off. The question here is whether the MDBA will even acknowledge this foundational mistake in the Evaluation.

Question 2: What has worked well?

Notwithstanding the MDBA's singular focus on supporting water recovery over complementary measures to address degradation drivers, the water recovered to date appears to have delivered many positive environmental outcomes, and to be supporting improved resilience of rivers and ecosystems to bounce back from drought.

However, the benefits will continue to fall far short of the Basin Plan's objectives while the focus of the MDBA's Basin Plan's evaluation remains weighted towards the science of what can be achieved through water recovery alone. Please see the previous section.

Question 3: Did anything unexpected happen?

Yes. The MDBA consistently refers to the Basin Plan being an adaptive management plan. Industry and Basin communities consequently expected that lessons learned from implementation over the last 12 years would be reflected in MDBA research and recommendations to Government.

Multiple reviews and inquiries have identified the lessons learned, and made recommendations to refine the Basin Plan's settings and targets beyond a singular focus on water recovery alone. Lessons learned include the importance and urgency of a policy reset to focus on complementary measures such as invasive species control, cold water mitigation, fish passageways and screening, partnerships with IIOs and landholders to get around constraints.

So, it is unexpected and disappointing to see that the MDBA remains singularly focused on water recovery alone, despite all we now know and have learnt from implementation.

Claiming the MDBA has no choice because of legislative limits is not credible when the MDBA is also an independent statutory body tasked with advising Basin governments. Further, the MDBA deliberately created those legislative limits for itself when it determined that water recovery targets alone would be the sole tool in the legislative instrument written by the MDBA for the Government to sign in November 2012.

Question 4: What/where/how could we do better?

The MDBA has already been told what, where and how it could do better for more than a decade in multiple reviews and inquiries, too many submissions from industry, community groups and local governments, and direct feedback from its many engagement activities. NSWIC suggests it acts on those recommendations, starting with genuine, meaningful engagement with Basin stakeholders, communities and local government.

NSW Irrigators' Council reports/submissions – all are publicly available		
	Name of report or information?	**Where is this information located (provide links or attach)?**
1	Beyond Buybacks – Why we need more than 'just add water'	2023_01_31_Beyond_buybacks_Campaign.pdf (mcusercontent.com)
2	Working Together - a call to action	https://www.nswic.org.au/wp-content/uploads/2022/11/Workinghttps://www.nswic.org.au/wp-content/uploads/2022/11/Working-together.pdftogether.pdf
3	Rural Schools Report	RURAL SCHOOLS REPORT (nswic.org.au)
4	Where's the Gap?	2023-03-21-Wheres-the-Gap-FINAL.pdf (nswic.org.au)
5	450 GL 'upwater' – what it means for consumptive water in the southern connected Basin.	2022-08-01-450-Report-FINAL.pdf (nswic.org.au)
6	NSWIC submission on the 450 GL recovery framework	https://www.nswic.org.au/wp-content/uploads/2024/03/NSWIChttps://www.nswic.org.au/wp-content/uploads/2024/03/NSWIC-submission-on-450-water-recovery-framework-FINAL.pdfsubmission-on-450-water-recovery-framework-FINAL.pdf
7	Submission on Productivity Commission interim report on Basin Plan 10year implementation review	https://www.nswic.org.au/wp-content/uploads/2023/12/2023-11-20https://www.nswic.org.au/wp-content/uploads/2023/12/2023-11-20-Submission-PC-Interim-Report.pdfSubmission-PC-Interim-Report.pdf
8	Submission to Senate Inquiry on *Water Amendment (Restoring our Rivers) Bill 2023*.	2023-09-29-NSWIC-Submission-Senate-Inquiry-Restoring-our-Rivers-Bill.pdf
9	Guide to fixing the Basin Plan – submission to Productivity Commission 10-year review.	2023-07-28-NSWIC-Submission-PC-10yr-Review-Basin-Plan-1.pdf
10	Delivering the Basin Plan – submission to Australian Government public consultation on innovative ideas to deliver the Basin Plan.	https://www.nswic.org.au/wp-content/uploads/2023/07/2023-06-30https://www.nswic.org.au/wp-content/uploads/2023/07/2023-06-30-NSWIC-Submission-Basin-Plan-Options.pdfNSWIC-Submission-Basin-Plan-Options.pdf

11	Reconnecting River Country Program – submission on landholder negotiation framework	2022-04-14-NSWIC-Submission-RRCP-Landholder-Negiation-Framework.pdf
12	Open letter to Ministerial Council	https://www.nswic.org.au/media_release/open-letter-to-ministerialhttps://www.nswic.org.au/media_release/open-letter-to-ministerial-council-you-can-fix-this-without-more-buybacks/council-you-can-fix-this-without-more-buybacks/
13	Job impacts from water recovery in the southern Murray–Darling Basin	https://www.nswic.org.au/wp-content/uploads/2023/04/2023-04-19https://www.nswic.org.au/wp-content/uploads/2023/04/2023-04-19-Jobs-impacts-socio-economic-report.pdfJobs-impacts-socio-economic-report.pdf
14	Contemporising best practice water management: lessons from the Murray Darling Basin on participatory water management in a mosaiced landscape.	https://www.tandfonline.com/doi/full/10.1080/13241583.2022.2097365
15	Submission to MDB Commission of Inquiry Bill 2019	Attached
16	Submission to the Productivity Commission Basin Plan five-year implementation review	Attached
17	Submission to the SA Royal Commission	Attached
18	Submission to the Independent Panel assessment of socioeconomic conditions in the Basin	Attached

Office locations – *First Nations Country*
Adelaide – *Kaurna Country*
Canberra – *Ngunnawal Country*
Goondiwindi – *Bigambul Country*
Griffith – *Wiradjuri Country*
Mildura – *Latji Latji Country*
Murray Bridge – *Ngarrindjeri Country*
Wodonga – *Dhudhuroa Country*

mdba.gov.au 1800 630 114 engagement@mdba.gov.au