



National Irrigators' Council

Food · Fibre · Future



February
2026

NIC Submission

Murray Darling Basin Plan Review:
Discussion Paper

SNAPSHOT

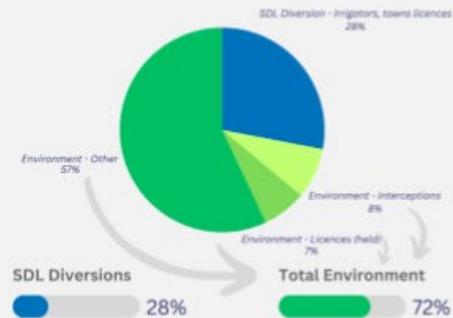


The balance has been struck

After three-decades of reforms to 'rebalance', 72% of inflows now remain in rivers for the environment, with just 28% left to sustain Australia's food bowl, town water supplies and other industries.

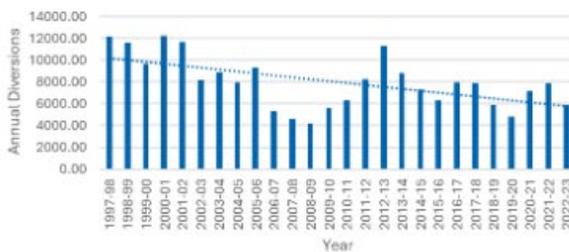
Sustainable Diversion Limits (SDLs) are now in force, with full compliance.

MDB WATER BALANCE



Farmers and communities need stability of water security

MDB ANNUAL DIVERSIONS



1/3
LITRES

Annual diversions have been dramatically reduced with 1/3 litres out of agriculture since 1990s.

Constant reforms create uncertainty, in these increasingly uncertain times, impacting investment and agriculture's climate resilience.

The environment needs more than 'just adding water'

Today's science says the biggest environmental problems are:

- Getting environmental water to wetlands and riparian land
- Invasive species (such as carp)
- Barriers to fish passage
- Habitat degradation
- Need for fish screens on pumps

MDBA data shows 92% of environmental indicators would not improve with further buybacks. Of the 8% which would improve, most are already scoring positively.



Just adding water simply cannot fix these.



It's time to move forward: working together needs to start now

Basin Plan 2.0 must move from just a water *recovery* plan, to a integrated water *management* plan.

It must integrate environmental water planning and use with land management priorities to optimise environmental outcomes without further water recovery by any means.

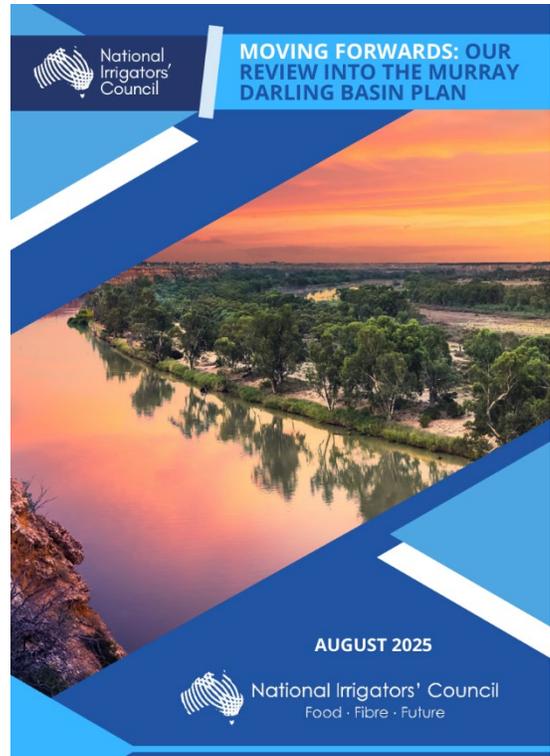
Governments cannot do this alone. A partnership approach with private landholders, communities and first nations is needed to build ground-up solutions.

Foreword

NIC published our review of the Basin Plan in 2025 – **“Moving Forwards: A Review of the Murray Darling Basin Plan by National Irrigators Council”**.¹

This submission is made in addition to the formal submission of the NIC Basin Plan Review, covering 6 chapters (based on the themes of the MDBA’s Early Insights Paper published in 2024):

- sustainable water limits,
- regulatory design,
- environment,
- climate change,
- community and agriculture
- contemporary topics (such as water quality, managing the Northern Basin, and First Nations water management).²



This submission, and the NIC Basin Plan Review, are backed by a large body of work led by NIC in the lead up to this process, including a series of published journal articles (which are also formally submitted to this public consultation), such as:

- **“The hydro-illogical cycle: Breaking the crisis mindset of water policy with the Triple Crown of Water Reform Framework”**³
- **“Prioritising Environmental Investment Using The Triple Crown Of Water Reform: An Evidence-Based Approach”** - pending publication
- **“Contemporising best practice water management: lessons from the Murray-Darling Basin on participatory water management in a mosaiced landscape”**⁴.

This submission directly responds to the Discussion Paper, bringing together this comprehensive, evidence-based program of work, developed over many years.

NIC seeks for this Review to be an opportunity for constructive, evidence-based, and positive approaches to water management in the Basin – recognising past successes and learnings - and

¹ [National Irrigators' Council - 'Moving Forward' Our Review of the Murray Darling Basin Plan](#)

² Ibid.

³ [FPJ2202 - Freak, C & Lowein, Z \(2025\), The hydro-illogical cycle: Breaking the crisis mindset of water policy with the Triple Crown of Water Reform Framework - Australian Farm Institute](#)

⁴ [Contemporising best practice water management: lessons from the Murray-Darling Basin on participatory water management in a mosaiced landscape: Australasian Journal of Water Resources: Vol 27 , No 2 - Get Access](#)

moving forwards - together with Basin communities and industries. This is the approach NIC has taken, and expects the same of others.

The Discussion Paper says that “*The Commonwealth has recovered approximately 20% of the Basin’s consumptive water, and this, along with other environmental water holdings, makes about 27% of the total pool*”. It is frustrating, and misleading, to hear continued focus on only the ‘percentage of the consumptive pool of water’ held for the environment, which ignores the full context of the full system, and the vast majority of environmental water which exists outside of the consumptive pool.

NIC notes the divisive approaches to past reform, which have pitted our industry and environmental or other interests as ‘in-conflict’. This is not the reality of today’s Basin. We too care about the environment, want to see positive changes (alongside healthy communities and industries), and are a vital part of the solution – not a “problem to be solved”. We look forward to working together on a new vision for the Basin that captures the importance of water security for farming and regional communities; alongside important ecological outcomes for the landscapes in which we live, work and enjoy.

In response to the Discussion Paper, this submission covers four parts:

Part 1: From water-recovery to water management - shaping Basin Plan 2.0

Part 2: Finishing off Basin Plan 1.0

Part 3: Detailed response to proposed options

Part 4: Further considerations

About us

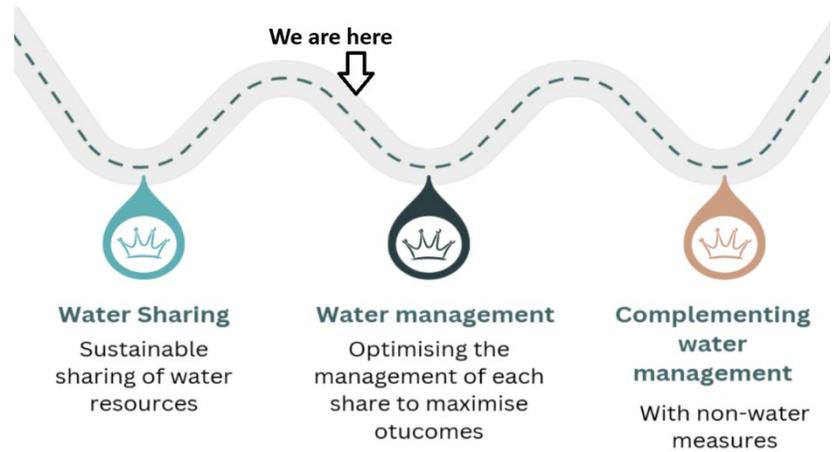
The National Irrigators’ Council (NIC) is the peak industry body for irrigated agriculture in Australia. NIC is the voice of irrigation entitlement holders, water delivery operators and industries involved in food and fibre production. Our industry is helping to feed and clothe Australia and our trading partners around the world.

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

NIC’s policy and advocacy are dedicated to growing and sustaining a viable and productive irrigated agriculture sector in Australia. We are committed to the triple bottom line outcomes of water use - for local communities, the environment, and for our economy.

Overview

- Environmental management in the Basin is **more complex than “just adding water”**.
- Given both the successes, and lessons learnt, from three decades of reform – **we can now move forward from a plan of water recovery targeting water-sharing, to a plan of water management**, focused on optimisation of outcomes within each existing share, and complementing those outcomes with integrated land and water management.
- **Identifying the drivers of ecological risks is critical** to identifying the right responses. The wrong problem will never lead to the right solutions. NIC strongly supports the MDBA’s outcomes-based approach taken to understand drivers of risks in the initial SDL assessments, which recognises many of those risks are beyond what can be solved via further SDL changes.
- The evidence-base from the Sustainable Rivers Audit (SRA) is pointing towards the need for **prioritisation of complementary or integrated land and water measures** (such as fish passageways, invasive species control, habitat restoration, cold water pollution etc); as well as measures to better manage and deliver existing water shares (such as community-supported constraints management to deliver water onto floodplains, and voluntary partnerships with irrigation infrastructure operators and landholders); rather than simple water-rebalancing measures. Put simply, **moving from a plan of water-recovery to a plan of water management** (and integrated land and water management).
- Addressing the drivers of environmental risks identified in the Discussion Paper will **require identifying more detailed response options on a local reach and valley scale**, working in partnership with communities from the bottom-up. A process for undertaking these critical next steps must be identified.
- **The outstanding components of the current Basin Plan** (specifically, recovering the SDLAM shortfall and ongoing recovery of 450 GL of additional HEW) **no longer reflect the environmental priorities in the Basin**, and remain a significant concern to Basin communities. The evidence-base developed through the Basin Plan Review process must be used to inform the remainder of Basin Plan 1.0. This shows little significant change from LoE1 (current) to LoE2 (further recovery). This is important given the significant public expenditure required (which is no longer ‘value for money’); socio-economic impacts; and evidence that they are not the highest priorities for Basin environments.
- **Collaborations and partnerships** with landholders and communities will be critical to forming solutions, given the identified risks. The next steps of Governments (on both designing



a Basin Plan 2.0 and completing Basin Plan 1.0) must respect this. Actions must focus on rebuilding trust with Basin communities, based on a shared vision for a healthy and productive Basin, backed by today's science – ahead of politics.

Key Recommendations

Basin Plan 2.0

After three decades of reform, communities need stability and certainty of water management.

The evidence-base of this Review makes clear that the priorities for Basin water management are no longer simply water-sharing, but instead require a shift to complementary and integrated land and water management for any Basin Plan 2.0. This means no further water recovery by any means. Moving forwards involves::

- **Investment in a range of strategic and coordinated package of actions targeted to minimising risks to environmental outcomes - known as complementary measures** that include invasive species control and riparian land management, etc; including but not limited to:
 - **Investment in a** coordinated, industry involved, MDB Native Fish Strategy focused on invasive species control, strategic fish passageway, government supported fish screening, practical cold water pollution measures, and riparian land management practices to support native fish;
- **Community-supported constraints management⁵ to optimise the opportunity for delivery and environmental outcomes** including:
 - Strong commitment to continue community supported projects under-way (New South Wales' Murrumbidgee Reconnecting River Country program and extend the Gwydir Reconnecting Watercourse Country program beyond December 2026); and
 - Further work with communities to undertake, participatory, local program for staged constraints programs and novel solutions in other areas (Goulburn and Murray) recognising and reflecting any changes to downstream environmental objectives;
- Expand opportunities to optimise environmental outcomes through improved partnerships including:
 - Direct investment in supporting landholders, industry and Irrigation Infrastructure Operators to undertake **voluntary land and water management partnerships**, based on current exemplars;
 - Enabling opportunities to strategically target environmental outcomes utilising novel, temporary market-based solutions such as lease or temporary purchase in partnership with water users.

⁵ [National Irrigators' Council - Constraints Management Position Statement](#)

-
- Fostering collaboration with First-Nations in the above, such as through Caring for Country programs or projects like the Billabong Project.

Basin Plan 1.0

The evidence-base developed through the Basin Plan Review process must also be used to inform the remainder of Basin Plan 1.0. – specifically, the SDLAM shortfall, and ongoing water purchases under the 450 GL of additional HEW. In our view, the evidence-base of this Review makes clear that these programs are no longer the priority for the MDB, and instead, investment must turn to the above opportunities to address the current drivers of environmental concerns in the Basin and optimise environmental water delivery. This means no further water recovery (by any means).

Not only are these now considered higher-priority towards improving the environmental risks in the Basin (than further buybacks), but pushing-ahead with those very components of Basin Plan 1 risks the likelihood of success and willingness from communities to participate in the initiatives and programs required.

How do we move forwards?

Moving forward to achieve recommended programs will necessarily require working together in partnership with Basin communities, landholders and industries. This involves testing the program concepts with communities:

1. Firstly, **more detailed response options must be identified on a local reach and valley scale** – this is best generated through a bottom-up (not top-down) approach, via a participatory, co-designed approach with local communities to capture local scale opportunities. Put simply, scaling integrated land and water management from a local-level upwards within the defined scope of programs, as suggested above.
2. Secondly, once a range of potential response measures are identified, a process to **strategically optimise** possible options via a multi-scale consideration of interdependencies, existing mechanisms and collaboration opportunities is needed.
3. **Further assessment** of the relative costs, benefits, feasibility, risks, trade-offs, impacts, and degree of public / community support. Importantly, many mechanisms being contemplated would bring benefits – the question is – with a pragmatic outlook (e.g. budgetary constraints), what would bring the *most* benefit to environmental outcomes, and with consideration of impacts (i.e. socio-economic). Further consultation, prior to finalising a detailed implementation plan for a recommendation to Government, is needed.

It is unlikely that Steps 1-3 can be completed prior to a recommendation to the Minister on next steps. Therefore, the Basin Plan should be drafted in such a way to outline a clear scope but enable this process to occur over the next 10-year period.

NIC recommends the design of any Basin Plan 2.0 (as an integrated water management plan to optimise water recovered for the environment rather than a further water recovery plan) must be a process for empowering communities to be part of future solutions to achieve improved environmental outcomes whilst valuing their social, economic and cultural interests through co-design, and participatory processes – within a defined scope set of high-level programs, rather than the current inflexible, legislative outputs like SDLAM.

The NIC has made a series of recommendations throughout this submission that lead to this overarching position.

Resources

NIC Policy Positions

- *NIC Position Statement on the Murray-Darling Basin Plan*⁶
- *NIC Position Statement on SDLAM Reconciliation Framework*⁷
- *NIC Position Statement on Constraints Management*⁸
- *NIC Position Statement on Reliability of Water Access Entitlements*⁹
- *NIC Position Statement on Enabling Cultural objectives in the water management framework*¹⁰

NIC Basin Plan Review

- *Moving Forwards: A Review of the Murray Darling Basin Plan by National Irrigators Council*¹¹

Chapter 1 – Regulatory Design

Chapter 2 – Sustainable Water Limits

Chapter 3 – Climate Change

Chapter 4 – Environment

Chapter 5 – Community and Agriculture

Chapter 6 – Contemporary topics (including First Nations, Northern Basin, Water Quality)

NIC staff journal articles

- *“The hydro-illogical cycle: Breaking the crisis mindset of water policy with the Triple Crown of Water Reform Framework”*¹²
- *“Prioritising Environmental Investment Using The Triple Crown Of Water Reform: An Evidence-Based Approach” - pending publication*
- *“Contemporising best practice water management: lessons from the Murray-Darling Basin on participatory water management in a mosaiced landscape”*¹³.
- *“Take it as a compliment: integrating complementary measures as the next chapter of Murray–Darling Basin water management”*¹⁴

NIC Reports and Research

- *NIC Review of additional Held Environmental Water (HEW)*¹⁵
- *NIC socio-economic assessment homepage*¹⁶

⁶ [National Irrigators' Council - Murray Darling Basin Plan Position Statement](#)

⁷ [National Irrigators' Council - SDLAM Reconciliation Position Statement](#)

⁸ [National Irrigators' Council - Constraints Management Position Statement](#)

⁹ [National Irrigators' Council - Reliability of Water Access Entitlements](#)

¹⁰ [National Irrigators' Council - Aboriginal Water](#)

¹¹ [National Irrigators' Council - 'Moving Forward' Our Review of the Murray Darling Basin Plan](#); full report: [Moving Forwards](#)

¹² [FPJ2202 - Freak, C & Lowein, Z \(2025\). The hydro-illogical cycle: Breaking the crisis mindset of water policy with the Triple Crown of Water Reform Framework - Australian Farm Institute](#)

¹³ [Contemporising best practice water management: lessons from the Murray-Darling Basin on participatory water management in a mosaiced landscape: Australasian Journal of Water Resources: Vol 27 , No 2 - Get Access](#)

¹⁴ [Take it as a compliment: integrating complementary measures as the next chapter of Murray–Darling Basin water management: Water International: Vol 49 , No 3-4 - Get Access](#)

¹⁵ [National Irrigators' Council - Review Of Additional Hew – full report: NIC-Review-of-Federal-Government-purchases-of-additional-HEW-Dec-2025.pdf](#)

¹⁶ [National Irrigators' Council - Socio Economic](#)

Submission

Part 1: From water-recovery to water management - shaping a Basin Plan 2.0

Initial SDL Assessments

Overall

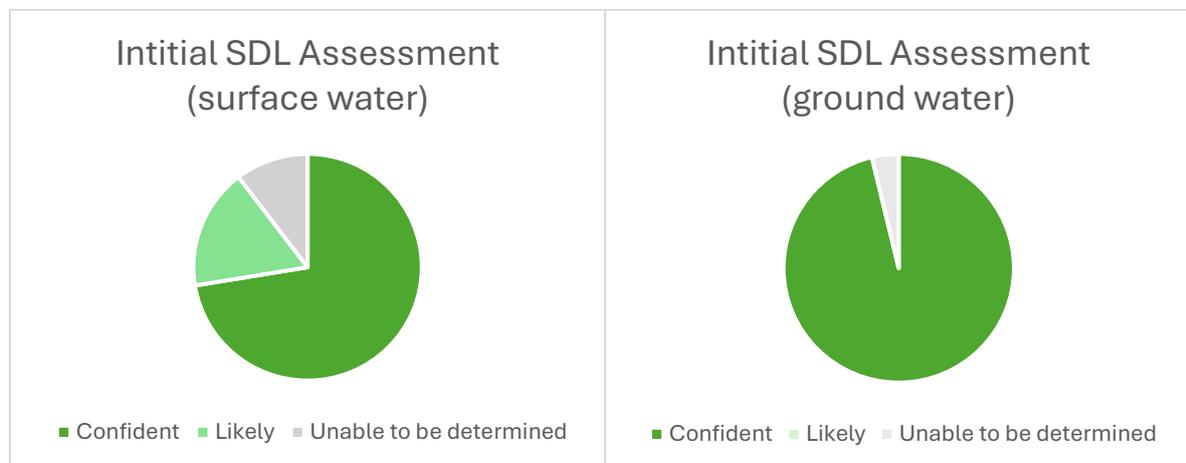
NIC notes that it is a statutory requirement for the MDBA to assess whether SDLs reflect an ESLT, as defined in the Act to include the productive base of the water resource .

The approach of the initial assessments that identifies drivers of ecological risks and recognises the limitations of SDL changes (or water recovery) as a solution, is integral to targeting the desired outcomes, and achieving them. The wrong problem won't lead to the right solutions.

The outcomes of the initial SDL assessments should be considered an environmental success story to have almost all SDL resource units either confidently with an ESLT = SDL, or likely. Specifically:

- Surface water (total = 29 units)
 - 21 confidently ESLT=SDL
 - 5 likely ESLT=SDL
 - 3 unable to be determined with further work required
- Groundwater (total = 80 units)
 - 77 confidently ESLT=SDL
 - 3 unable to be determined with further work required

Figure: Percentage of SDL units with SDL=ESLT



Outcomes of initial SDL assessments

The outcomes from the MDBAs initial SDL assessments clearly show:

- The successes of the Basin Plan in establishing SDLs across the Basin;
- Many positive environmental outcomes that have resulted from the Basin Plan, particularly to flow-based indicators;
- Remaining environmental outcomes require more targeted interventions, separate from SDL setting and water-rebalancing, to address – it is noted that ‘pattern of flow’ (referring to constraints management and floodplain inundation) was a frequently recurring driver of at-risk environmental outcomes;
- Prioritisation for future investment given the current status of environmental outcomes and recurring drivers of these outcomes – towards ‘pattern of flow’ measures (constraints management) and non flow measures (complementary measures, such as fish passageways, habitat restoration, etc).

It was disappointing to note that in communicating the SDL assessment results, the MDBA did not clearly acknowledge the community and industry impact that occurred around the Basin, and the acute impacts in smaller, regional centres with high dependency on irrigation-water for economic activity, to achieve the implementation of new limits.

NIC has compiled the MDBA initial SDL assessments (SDL=ESLT; environmental outcome risks and identified key drivers), with the most recent Water Take Reports of SDL Compliance, in Table 1 below.

Table 1: Initial SDL assessments compiled by NIC

SDL unit	SDL = ESLT ¹⁷	SDL compliance ¹⁸	Adjusted cumulative balance – end of year	Environmental outcome risks	Drivers
Barwon-Darling	Unable to determine, further work required	Yes	79.56	Ecosystem function and native fish	Pattern of flow is the likely leading driver of risk
NSW Border Rivers	Confident	Yes	102.85	Not at risk	
Condamine-Balonne	Confident	Yes	723.96	Not at risk	
Gwydir	Likely	Yes	153.46	Waterbirds	Pattern of flow

¹⁷ [Sustainable Diversion Limit assessments - surface water - Groups - MDBA Library](#), see document for each valley.

¹⁸ Based on MDBA Registers of Take (2023-24, most recent), see final column ‘was the trigger exceeded’: [2023-24 Sustainable Diversion Limit Accounts](#)

Intersecting Streams	Confident	Yes	0	Not at risk	
Lachlan	Confident	Yes	207.18	Not at risk	
Macquarie-Castlereagh	Confident	Yes	377.37	Not at risk	
Murrumbidgee	Likely	Yes	-239.56 ¹⁹	Native fish, flows and connectivity, and native vegetation	Pattern of flow
Namoi	Confident	Yes	40.34	Not at risk	
NSW Murray	Likely	Yes	1394.69	Flows and connectivity, ecosystem functions and native fish	Pattern of flow
Lower-Darling	Unable to determine, further work required	Yes	36.82	Flows and connectivity, ecosystem function and native fish	Pattern of flow
SA River Murray	Unable to determine, further work required	Yes	115.83	Flows and connectivity, ecosystem functions, native fish and waterbird	Pattern of flow (due to constraints) likely, sufficiency of flow also potential factor.
SA Murray Region	Confident	Yes	159.29	Not at risk	
QLD Border Rivers	Confident	Yes	556.49	Not at risk	
Moonie	Confident	Yes	252.63	Not at risk	
Eastern Mount Lofty Ranges	Confident	Yes	62.80	Not at risk	
Marne Saunders	Confident	Yes	4.32	Not at risk	
Warrego	Confident	Yes	136.27	Not at risk	
Nebine	Confident	Yes	22.83	Not at risk	
Paroo	Confident	Yes	0.37	Not at risk	
ACT	Confident	Yes	94.98	Not at risk	
Vic Murray	Likely	Yes	1147.25	Flows and connectivity, ecosystem functions and native fish	Pattern of flow (due to inability to deliver water onto floodplains)
Kiewa	Confident	Yes	27.54	Not at risk	
Ovens	Confident	Yes	72.74	Not at risk	
Broken	Confident	Yes	10.03	Not at risk	
Goulburn	Likely	Yes	1848.01	Flows and connectivity, ecosystem functions and native vegetation	Pattern of flow (inability to deliver higher in-channel flows and water to the floodplain in

¹⁹ While the Murrumbidgee was negative in the 2023-24 water year, the Basin Plan compliance trigger is 20% of the SDL, to account for 'unders and overs' year to year. Given the Murrumbidgee SDL that year is 2142.00 GL, the compliance trigger is -428.40, which was not exceeded.

					the lower Goulburn River)
Campaspe	Confident	Yes	104.19	Not at risk	
Loddon	Confident	Yes	166.62	Not at risk	
Wimmera–Mallee	Confident	Yes	135.38	Not at risk	

In addition to the above, this also shows that not only are SDLs reflecting an ESLT in most water sources, and SDL compliance is being achieved, but in almost all instances actual water take remains well below the SDL.

Given that SDL assessments are initial only, and that a smaller number of units are being further investigated, it is reasonable to expect that stakeholders in those communities have specific targeted further conversation following the current submission period. This engagement should focus on the specific options being considered, any new evidence developed throughout the submission process and discussions should not be constrained i.e. be deliberative and discussion based with the aim of informing the final SDL assessment for that region.

Recommendation: For SDL Units where the initial assessment is unable to be determined and further work is required, or there is a low level of confidence in the SDL assessment further targeted consultation in those areas should occur following the submission process. This engagement should focus on the specific options being considered, any new evidence developed throughout the submission process and should provide opportunities for deliberative discussion based with the aim of informing the final SDL assessment for that region

Method

It is supported that the SDL assessment process looks at actual outcomes, not just water volumes. Specifically, these are:

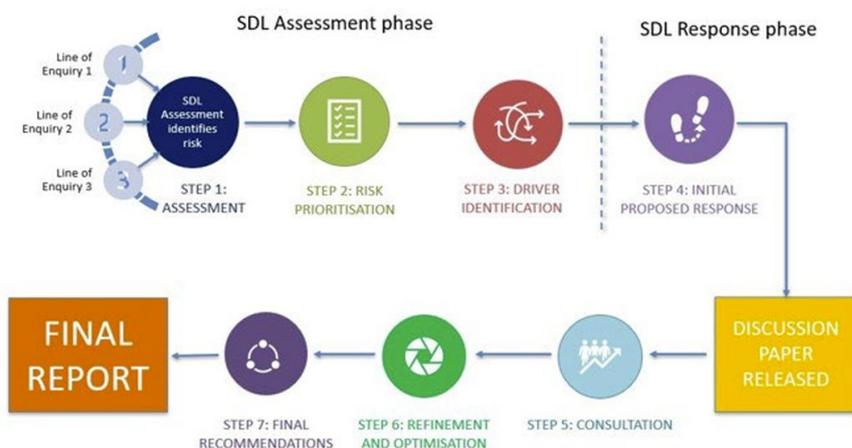
- flows and connectivity
- ecosystem functions
- waterbirds
- native fish
- native vegetation
- other species

NIC strongly supports the approach that looks beyond just the SDL, to the other drivers of environmental outcomes, which seeks to identify the role that the SDL may, or may not, have in driving those outcomes.

Environmental management in the Basin is more complex than “just adding water”. Identifying the drivers of ecological risks is critical to identifying the right responses to those risks. Using the wrong tool for the job will not reach the right outcomes – in fact – a lot of potential harm could result.

The steps of *risk prioritisation* (step 2) and *driver identification* (step 3) in the assessment methodology are critical to ensure the problem-definition is appropriately understood in each water source, and the correct responses identified (if required).

Figure: Extract from MDBA SDL Assessment and Response Framework²⁰



NIC was concerned that an overly simplistic approach would be used, proposing SDL changes in response to environmental scores, which would not only impact industry/communities, but also fail to actually solve the environmental challenges. It is pleasing to see learnings from the past 14 years of Basin Plan implementation, and acknowledgment that environmental restoration is more complex than “just adding water”. This more sophisticated and matured understanding of water reform is a large success of the review process to date.

Recommendation: For the final Review, NIC suggests that a snapshot of outcomes is presented (such as the above, which NIC has compiled from the various valley-level assessments). There is some confusion in the messaging of the Discussion Paper, and particularly the Snapshot, which does not have the nuance of the detailed valley-level reports, risking misinterpretation of those who only read the headline findings.

²⁰ [Sustainable Diversion Limit Assessment and Response Framework](#)

Lag-times mean precautionary approach is needed

NIC notes the significant time-lags between water recovery occurring and when the full suite of outcomes will be known, as ecosystems adjust over time. This means the environmental outcomes achieved from water rebalancing to date is expected to be even greater than currently observed. This is an important consideration, as further interventions would be premature until these full outcomes are known (particularly considering the substantial public expenditure required, and significant socio-economic impacts). For this reason, a precautionary approach to further changing SDLs is required, being cautious of potentially unnecessary expenditure or socio-economic impacts, until full outcomes are realised from existing environmental water (following time lags), and/or targeted interventions (complementary measures) are properly utilised.

Data

Since SDLs were initially modelled, there is now actual data from monitoring, to guide this assessment process. It is critical that up-to-date contemporary science is used (as has been used in this review process to date), given the significant changes which have occurred in the Basin since initial ESLT modelling. Comparison to outdated data or estimates would be effectively redundant, given this new information and new operating environment.

It is plausible (and worthy of further inquiry), given the outcomes to date, that less water is actually required to be recovered than initially modelled in the design of the Basin Plan to achieve the desired environmental outcomes. Instead - different measures other than just water are needed alongside water volumes (in fact, now appear a higher priority). This will be further explored in Part 2 of this submission.

Lines of Enquiry

Background

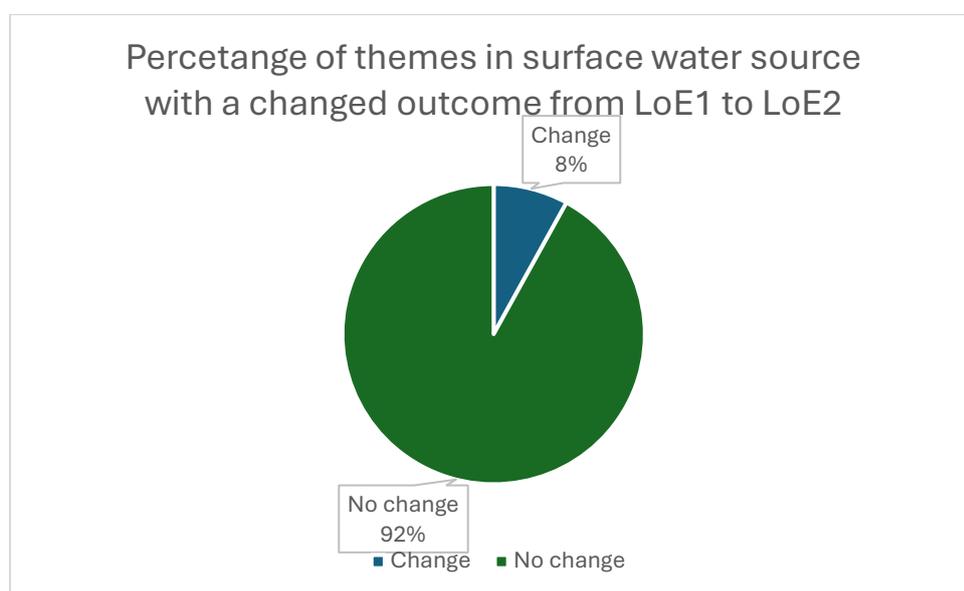
NIC notes that the Assessment Approach looked at three lines of enquiry:

- **Line of Enquiry 1:** current implementation of the Basin Plan (and level of use) as at June 2024
- **Line of Enquiry 2:** full Basin Plan implementation (assuming full use of the SDL, SDLAM reconciliation has occurred with a 300GL/y shortfall, constraints have not been relaxed, recovery of 450 GL/y for enhanced environmental outcomes with 129GL/y of that in the northern Basin).
- **Line of Enquiry 3:** full implementation under a range of plausible future hydroclimates

The purpose of showing these is to compare current Basin Plan implementation (LoE 1) to a scenario of recovering the full additional 450 GL with 100 GL from the Northern Basin, and the remainder from the Southern Basin as well as recovering of 300 GL of the SDLAM Shortfall (LoE2). Put simply, where the two-dots show different results for each theme.

Analysis

Analysis of data presented in each of the SDL reports highlight the limited improvement between the lines of enquiry, as represented below with only 8% of assessments for individual themes across all water source units, registering an improvement.



Of the 8% of themes that did register an improvement:

- The change is often from a positive baseline (i.e. ‘more likely than not’) to ‘likely’;
- There is often low or medium confidence in that change occurring.
- Only 2 water sources had changed outcomes beyond a single-step (and as above, were already ‘more likely than not’,

This leads NIC to interpret the critical outcomes in the water source remained unchanged (as beyond what water volumes alone can achieve).

For example, the NSW Murray was identified as having environmental outcomes at-risk, however, no indicators changed between LoE1 and LoE2 of further water recovery. This means even if further water recovery under Basin Plan 1.0 it would not improve these outcomes.

NSW Murray (no change)

The likelihood that the pattern and volume of flow will support the objectives for each ecological theme

Theme	Line of enquiry	Likelihood					Confidence	
		Very unlikely	Unlikely	About as likely as not	More likely than not	Likely		Very likely
Flows and connectivity	LoE 1			●				●●○
	LoE 2			●				●●○
Ecosystem functions	LoE 1			●				●○○
	LoE 2			●				●○○
Waterbirds	LoE 1				●			●●○
	LoE 2				●			●●○
Native fish	LoE 1			●				●○○
	LoE 2			●				●○○
Native vegetation	LoE 1				●			●●○
	LoE 2				●			●●○
Other species	LoE 1				●			●○○
	LoE 2				●			●○○

Similarly, as a further example, the Gwydir valley was also identified as having environmental outcomes at-risk, but similarly there was no improvements shown between LoE1 and LoE2 of further water recovery.

Gwydir (no change)

The likelihood that the pattern and volume of flow will support the objectives for each ecological theme

Theme	Line of enquiry	Likelihood					Confidence	
		Very unlikely	Unlikely	About as likely as not	More likely than not	Likely		Very likely
Flows and connectivity	LoE 1				●			●●○
	LoE 2				●			●●○
Ecosystem functions	LoE 1				●			●●○
	LoE 2				●			●●○
Waterbirds	LoE 1			●				●○○
	LoE 2			●				●○○
Native fish	LoE 1				●			●○○
	LoE 2				●			●○○
Native vegetation	LoE 1				●			●●○
	LoE 2				●			●●○
Other species	LoE 1				●			●●○
	LoE 2				●			●●○

This assessment does not look at an alternative-measures scenario – i.e. a scenario of constraints management and complementary measures, to compare how outcomes would look under a different package of investment.

For example, as a case study, the Barwon-Darling was identified as ‘unable to be determined’ with environmental risks, however, while some indicators do change between LoE1 and LoE2, there is no investigation of alternative options as to how else these same outcomes could be achieved such as via better management of environmental water, temporary trade / lease options, and complementary measures.

Barwon-Darling (3 indicators change, low-medium confidence)

The likelihood that the pattern and volume of flow will support the objectives for each ecological theme								
Theme	Line of enquiry	Very unlikely	Unlikely	About as likely as not	More likely than not	Likely	Very likely	Confidence
Flows and connectivity	LoE 1				●			● ● ○
	LoE 2					●		
Ecosystem functions	LoE 1			●				● ● ○
	LoE 2				●			● ● ○
Waterbirds	LoE 1	●						● ● ○
	LoE 2	●						● ● ○
Native fish	LoE 1			●				● ○ ○
	LoE 2					●		● ○ ○
Native vegetation	LoE 1				●			● ● ○
	LoE 2				●			● ● ○
Other species	LoE 1							N/A
	LoE 2							N/A

Based on the above, it would be anticipated that once further local / community-level dialogue occurred, alternative solutions would yield higher environmental outcomes, without the negative impacts, and loss of community support almost inevitable from pushing ahead with Basin Plan 1.0 additional recovery.

The evidence-base provided in the initial SDL assessments shows very little ecological change between a current scenario, and a scenario of further water recovery. This throws into question the further public expenditure on additional water recovery as not ‘value for money’.

This key finding should serve to inform future implementation of Basin Plan 1, given the significant expenditure required, and impacts to Basin communities.

Reliance on LoE2 for surface water

The SDL Assessment Framework says:

“For both surface water and groundwater, all three lines of enquiry support the assessment, recognising, however, that: • For surface water – line of enquiry 2 is generally applied as the ‘primary’ line of enquiry; tested by reference to lines of enquiry 1 and 3.”²¹

The use of LoE2 as the primary LoE has caused concern amongst water users, as many assumptions of LoE2 are either not feasible, or would have significant impacts to water users. For example, LoE2 would result in a further 300 GL being removed from the

²¹ [Sustainable Diversion Limit Assessment and Response Framework](#) [P 8].

consumptive pool, as well as the full 450 GL. As shown below, the value of LoE2 seems to be more to show the little marginal benefit in moving from LoE1 to LoE2.

We are curious if a current scenario (LoE1 updated to current water recovery) would still produce the same headline result that SDLs = ESLT. Put simply, that even without the remainder of the additional 450 GL or SDLAM shortfall recovery, the SDL would still produce an ESLT. Based on the data shown in the initial assessments – where there is no or little significant change between LoE1 and LoE 2 - we believe this is highly likely. This is a major piece of information to inform the next steps of Basin Plan 1.0.

NIC asked this question at the MDBA Roundtable consultation sessions, and was told that the work shows the 450 GL does produce positive environmental outcomes. NIC went back to the assessments and struggled to see this statement reflected in the data. At best, in a small number of water sources, a small number of indicators shifted, with low or medium confidence. Whether this warrants billions of dollars of public expenditure is an important, and valid, question. The question is not “will additional outcomes be achieved”, rather, “what are the outcomes we are trying to achieve, and what is that the most effective way to achieve those outcomes” and “at what cost”? Put simply – prioritisation.

Further lines of enquiry needed to consider options

NIC sees that a critical next steps of the Basin Plan Review process will be revisiting the above analysis based on a Line of Enquiry which considers the sorts of measures being called for by the vast majority of stakeholders – such as those proposed in this submission (e.g. complementary measures, and community-supported methods of constraints management).

This would allow the benefits of such projects to be seen. It would also expose the relatively different benefits that could be targeted, different to those that only water-based measures (i.e. the additional water buybacks under LoE2). This is a critical piece of information to determine the relative benefits.

Recommendation: Undertake this process with an alternative package of investment scenario (e.g. constraints management and complementary measures), to compare how outcomes would look under a different package of investment.

NIC Analysis of initial SDL assessments

NIC has undertaken further work on this, utilising the data published in the latest Sustainable Rivers Audit (SRA). In Freak and Lowien (2026)²² an evidence-based approach to prioritise public investment across the *Triple Crown of Water Reform Framework* is presented, designed to optimise environmental outcomes in a water source based on progress towards each of the crowns and their relative contribution to the current, and desired, outcomes. This is based on MDBA data.

Key points:

- The key findings show that the evidence-base from the SRA is pointing towards the need for prioritisation on complementary or integrated measures; as well as measures to better management existing water shares; rather than simply water-sharing measures.
- Key findings include that, at a valley-scale, in almost all MDB valleys, Crown 1 (hydrology) scored the highest. Similarly, in most valleys, Crown 3 (complementary measures) scored the lowest.
- At a Basin-scale, Crown 1 scored the highest (average score of 4.4), followed by Crown 2 (average score 3.2), then Crown 3 (average score 2.2).
- These findings support the findings, and approach, of the MDBA in the initial SDL assessments, that the drivers of environmental risks require more targeted interventions than what can be achieved simply via SDL adjustments.

Detail:

Snapshot: Triple Crown of Water Reform

The *Triple Crown of Water Reform Framework*²³ is a multi-stage framework which recognises the broader outcomes desired to achieve a river system's ecological sustainable level of take , extend beyond rebalancing water quantities itself. This extension requires not only sustainable water shares, but the optimal use and management of those shares, and the furthering of outcomes to include direct targeted initiatives. This includes three-parts or 'crowns':

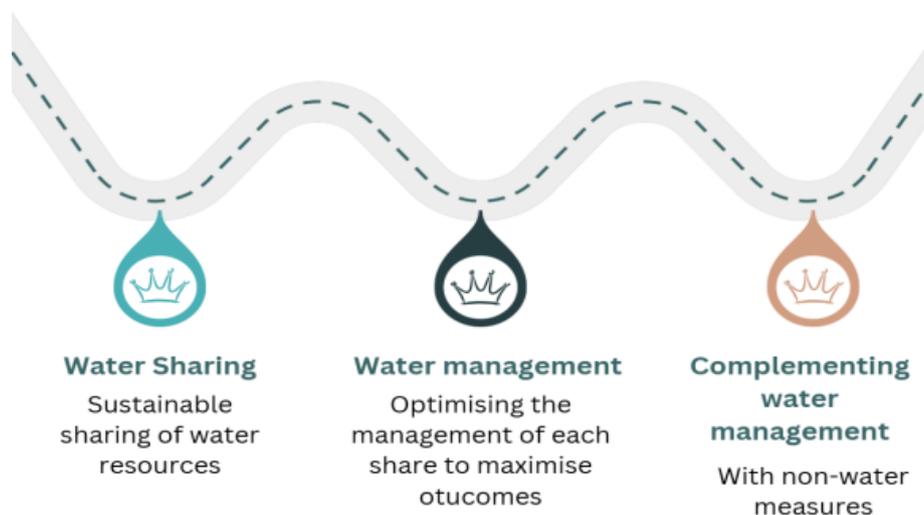
1. water-sharing
2. water-management, and

²² Pending publication – Freak C and Lowien Z (2026) “Prioritising Environmental Investment Using The Triple Crown Of Water Reform: An Evidence-Based Approach” OzWater Conference Paper.

²³ [FPJ2202 - Freak, C & Lowein, Z \(2025\), The hydro-illogical cycle: Breaking the crisis mindset of water policy with the Triple Crown of Water Reform Framework - Australian Farm Institute](#)

3. integrated or complemented water resource management initiatives.

These are distinct, but related, components of a comprehensive or systematic approach to water reform.



In Freak and Lowien (2026), the eight primary environmental indicators used in the SRA valley assessments were identified, and categorised into the Triple Crown Framework, based on most relevance, and greatest degree of influence of management interventions. It is acknowledged that some indicators are relevant to more than one Crown, so categorisation reflects the most relevance, not irrelevance.

Table X: Categorization of SRA environmental indicators against Triple Crown Framework

Environmental Indicators in SRA valley assessments	
Crown 1	<ul style="list-style-type: none"> • Longitudinal connectivity • Freshes and bankfull flows
Crown 2	<ul style="list-style-type: none"> • Low floodplain connectivity • High floodplain connectivity • Floodplain tree condition
Crown 3	<ul style="list-style-type: none"> • Species expectedness • Species nativeness (ratio of native to introduced species) • Recruitment

The condition reported in the SRA for each indicator is a qualitative score (very poor to very good), so these were scored quantitatively (0-5) for the purposes of data analysis in this work with very poor scoring 0, to fair receiving a 3 and very good 5 as a sliding scale. Data was presented for each river valley and the Basin-scale, across each environmental

indicator, as well as an average score for each Crown. The full paper shows further information, with key figures extracted below.

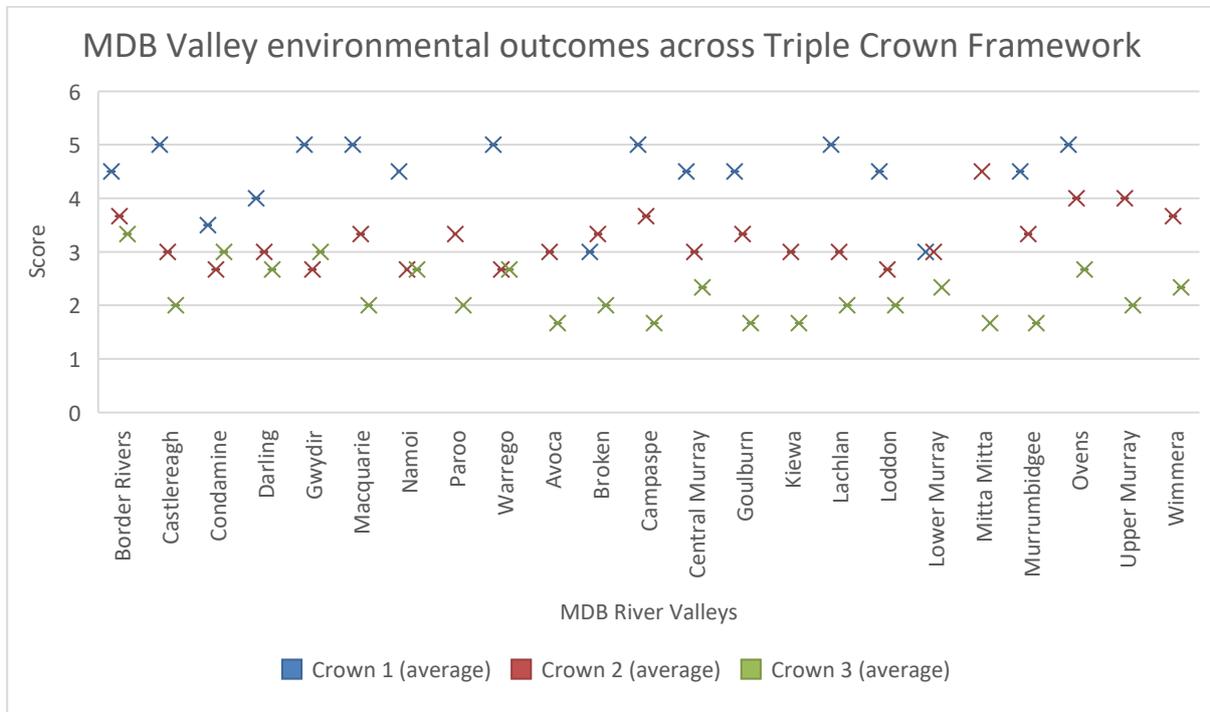


Figure 1: MDB-valley environmental outcomes across Triple Crown Framework

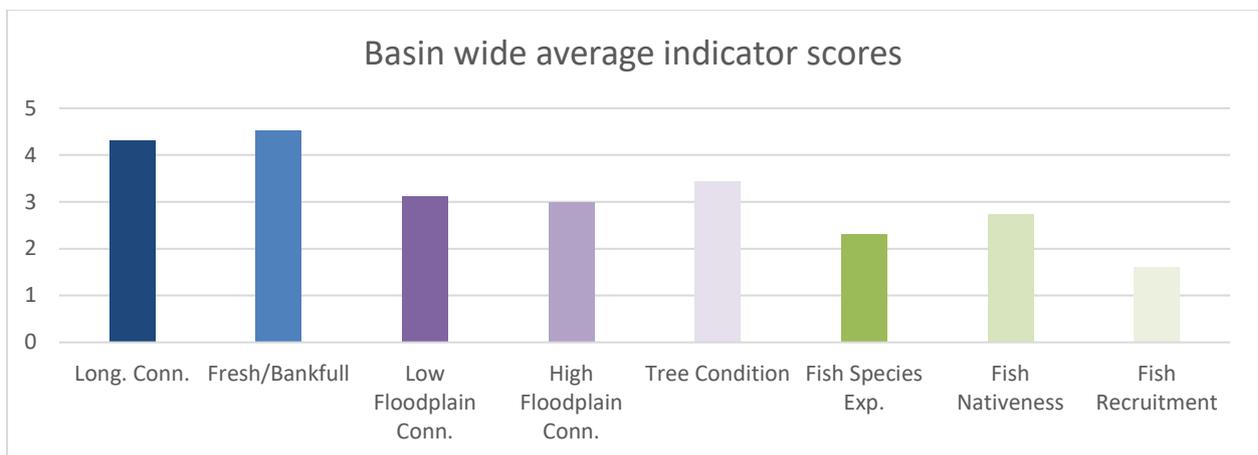


Figure 2: Basin-wide average indicator scores

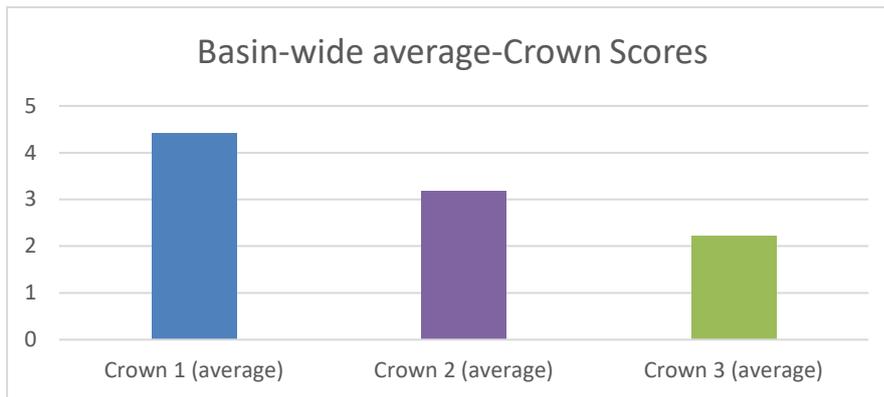


Figure 3: Basin-wide average-Crown Scores

In summary, this suggests the need to identify a new ‘problem-definition’ in the MDB, progressed from the original problem-definition that led to the original Basin Plan (i.e. addressing overallocation or the need for water-sharing rebalancing).

It will be an important part of any Basin Plan 2.0 (as with any policy-design process) to develop an agreed problem-definition with a shared vision amongst stakeholders (and governments) on working together towards that objective.

In our view, that contemporary problem-definition is on shifting from a deep focus on water-sharing and water-quantities alone – to Integrated Catchment Management – focused on working together with communities to better integrate land and water management initiatives to optimise outcomes from the now-established water-sharing framework. A key part of this will be enhancing outcomes across all shares – environmental outcomes from the existing shares of water available to the environment (such as through community supported constraints management and water delivery partnerships, and complementary measures)– as well as agricultural outcomes by valuing water security for farming and communities. This is a new chapter on optimisation and management- not recovery.

Key Recommendations: Basin Plan 2.0

After three decades of reform, communities need stability and certainty of water management.

The evidence-base of this Review makes clear that the priorities for Basin water management are no longer simply water-sharing, but instead require a shift to complementary and integrated land and water management for any Basin Plan 2.0. This means no further water recovery by any means. Moving forwards involves:

- **Investment in a range of strategic and coordinated package of actions targeted to minimising risks to environmental outcomes - known as complementary measures** that include invasive species control and riparian land management, etc; including but not limited to:
 - **Investment in a** coordinated, industry involved, MDB Native Fish Strategy focused on invasive species control, strategic fish passageway, government supported fish screening, practical cold water pollution measures, and riparian land management practices to support native fish;
- **Community-supported constraints management²⁴ to optimise the opportunity for delivery and environmental outcomes** including:
 - Strong commitment to continue community supported projects under-way (New South Wales' Murrumbidgee Reconnecting River Country program and extend the Gwydir Reconnecting Watercourse Country program beyond December 2026); and
 - Further work with communities to undertake, participatory, local program for staged constraints programs and novel solutions in other areas (Goulburn and Murray) recognising and reflecting any changes to downstream environmental objectives;
- Expand opportunities to optimise environmental outcomes through improved partnerships including:
 - Direct investment in supporting landholders, industry and Irrigation Infrastructure Operators to undertake **voluntary land and water management partnerships**, based on current exemplars;
 - Enabling opportunities to strategically target environmental outcomes utilising novel, temporary market-based solutions such as lease or temporary purchase in partnership with water users.
 - Fostering collaboration with First-Nations in the above, such as through Caring for Country programs or projects like the Billabong Project.

²⁴ [National Irrigators' Council - Constraints Management Position Statement](#)

Next steps given initial SDL assessments

Key points:

- The work undertaken to date by the MDBA has been important to understanding the contemporary drivers of environmental risks in the MDB and will help shape an evidence-based problem-definition.
- In terms of the response - more detailed response options must be identified on a local reach and valley scale, from a local-level upwards. Participatory, co-designed approach with local communities is needed to capture local scale opportunities.
- Prioritisation will be critical moving forwards - many mechanisms being contemplated would bring benefits – the question is – with a pragmatic outlook (e.g. fiscal climate / budgetary constraints), what would bring the most benefit to overall environmental outcomes, and further, in consideration of impacts (such as socio-economic).

Addressing the drivers of environmental risks identified in the Discussion Papers will require identifying more detailed response options on a local reach and valley scale, working in partnership with communities from the bottom-up. A process for undertaking these critical next steps must be identified.

Detail:

An evidence-based and agreed problem-definition is central to shape the future focus of response measures, offering new opportunities and enhanced environmental outcomes. However, it is only part of the process required to make evidence-based change in the management of the Basin. There are further steps to develop detailed options across multi-scales, alongside Basin communities, and optimise those within a broader strategy.

We have provided a flow-chart of where we see the critical next steps of this process going.

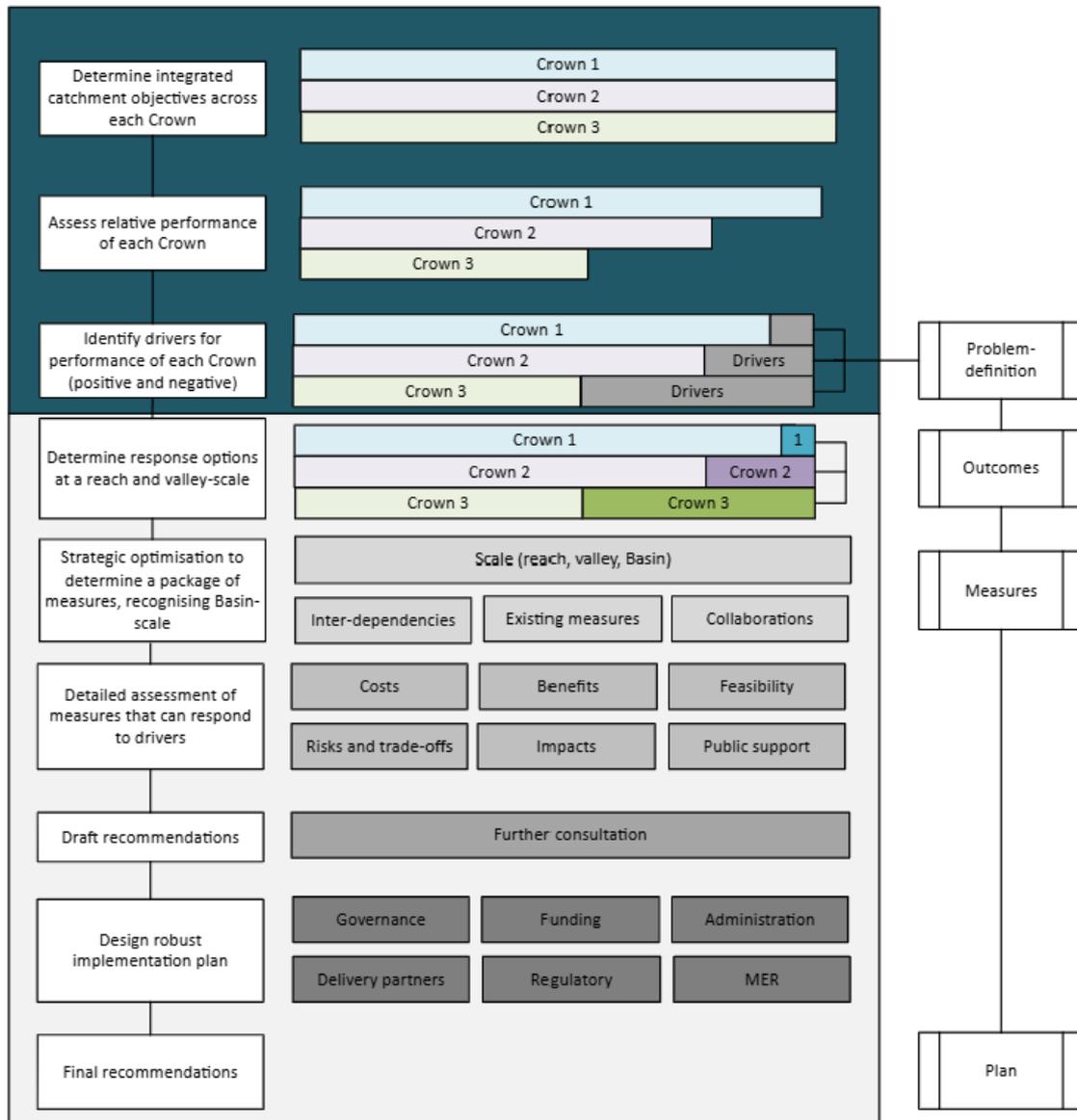


Figure X: Positioning this work on identifying the problem-definition within the broader process of determining future management direction for the MDB

Firstly, more detailed response options must be identified on a local reach and valley scale. The MDBA's work to date has gone part of this way, by presenting the evidence-base, and starting the conversation on a partially redefined problem-definition. However, developing options that are uniquely tailored to a range of problem definitions at multiple scales is needed. This enables a bottom up, rather than top-

down approach with an aim to maximises future success. To achieve this further work via a participatory, co-designed approach with local communities is needed to capture local scale opportunities. Put simply, scaling integrated land and water management from a local-level upwards.

Secondly, once a range of potential response measures are identified, a process to strategically optimise possible options via a multi-scale consideration of interdependencies, existing mechanisms and collaboration opportunities is needed. This step is critical to ensure a strategic lens to future investment, while linking back to problem definitions at multiple-scales, while being community developed. For example, many of the initial SDL assessments suggests the importance for a continuation of community supported constraints projects across multiple regions to enhance floodplain outcomes at various scales. The current prescriptive approach hasn't succeeded however, a refreshed opportunity focusing on the problem definition creates an opportunity for these programs to pragmatically adapt to the local challenges and opportunities by having a local, reach, valley and Basin perspective. Similarly, a program focusing on non-flow measures to improve native fish may entail a suite of options such as improved fish passage, habitat restoration, minimising fish entrainment and improved invasive species management that can be developed at multiple scales, with different priorities and actions at different locations.

Further assessment of the relative costs, benefits, feasibility, risks, trade-offs, impacts, and degree of public / community support should then be undertaken. Importantly, many mechanisms being contemplated would bring benefits – the question is – with a pragmatic outlook (e.g. fiscal climate / budgetary constraints), what would bring the most benefit to overall environmental outcomes, and further, in consideration of impacts (such as socio-economic). This next step in the Basin Plan Review process should then involve **further consultation**, prior to finalising a detailed implementation plan for a recommendation to Government.

What form does a Basin Plan 2.0 take?

Given the substantial work required to work with communities to design projects that are community-supported and targeted to the specific issues in each valley, it is unlikely that these projects will be finalised in time for the intended legislative amendments. Ensuring genuine community-supported projects, based on co-design and participatory processes, is integral to success – and cannot be rushed. However, likewise, pursuing alternative options or “quick fixes” risks not realising the full potential environmental outcomes that necessarily require partnerships and collaborations (particularly when

looking at the full landscape, including private land). This means it is important to consider: (i) what can be decided in the required time-frame (ii) the form in which Basin Plan 2.0 should take to reflect what we know versus what we need to work out; and (iii) what steps are required to achieve those outcomes; and (iv) how we get there given the status quo.

Specifically – perhaps it is a “process” that Basin States and the Commonwealth agree to, to support (and fund / resource) communities to design and deliver projects via participatory or co-design methods, towards a strategic over-arching plan set by the Basin Plan. Boundaries on what is in and out of scope for the Basin Plan would need to be determined, to guide jurisdictions and communities in their solution deliberations. However, these could be set in the form of programs with objectives and not specific projects. The role of the Basin Plan (and MDBA) would therefore shift to more of a strategic coordination role, in which local-level solutions are supported and invested in, to scale to achieve broader water source and Basin objectives. This could see the role of the MDBA as more of an integrated land and water management agency, coordinating the various projects.

An example of a process-driven legislative framework is the approach of the Sustainable Groundwater Management Act (SGMA) in California. Rather than prescribing a fixed set of projects from the outset, SGMA establishes a governance and planning process that empowers local regions to develop solutions suited to their specific hydrological, economic, and community contexts. SGMA outlines overarching objectives (to avoid 6 undesirables), but the “how” is designed from the ground-up. Note: there have also been numerous challenges/issues with SGMA so we are not endorsing the same approach entirely, this is just an example of - very specifically - how legislation can provide a process-based approach.

Key Recommendations: How do we move forwards?

NIC recommends the design of any Basin Plan 2.0 (as an integrated water management plan to optimise water recovered for the environment rather than a further water recovery plan) must be a process for empowering communities to be part of future solutions to achieve improved environmental outcomes whilst valuing their social, economic and cultural interests through co-design, and participatory processes – within a defined scope set of high-level programs, rather than the current inflexible, legislative outputs like SDLAM.

determining the final projects pre-emptively from the top-down.

Part 2: Finishing off Basin Plan 1.0

The evidence-base provided through the Basin Plan Review process provides important and valuable information, not just for a Basin Plan 2.0, but for the remainder of the implementation of Basin Plan 1.0.

The remainder of Basin Plan 1.0 is a large omission from the Basin Plan Review to date. These cannot be considered in isolation and as we have raised earlier, how governments respond will ultimately influence how BP 2.0 progresses, given it will need a strong partnership and collaborative approach to implement.

The “remaining” components of Basin Plan 1.0 are problematic – both in terms of financial costs, socio-economic risks, and complexity in delivery. Most significantly, this refers to:

- Ongoing purchases towards the 450 GL of additional environmental water
- Unknown treatment of the SDLAM shortfall (estimated at up to 300 GL)

Table 5: Basin Plan implementation progress

Program	Mechanism / Target Crown	Target	Progress *	Remaining	% complete	Lead jurisdiction
Bridging the Gap	Water purchase (Crown 1)	2,075 GL	2,062.2 GL	15.7 GL	99.4%	Cth
Northern Basin Toolkit	Projects (Crowns 2 & 3)	70 GL (equivalent / offset)	2/6 measures	4/6 measures	Not yet quantified	States
SDLAM (Supply & Constraints)	Projects (Crown 2)	605 GL (equivalent / offset)	250 - 350 GL/y**	255 - 355 GL ²⁵	41% - 57%	States
SDLAM Additional HEW ('the 450')	Water purchase (Crown 1)	Minimum: 62 GL*** Maximum: 450 GL	145.6GL registered*	0 GL to minimum 280.2 GL to maximum	100% of minimum 38% of maximum	Cth

Note 1: As of 30 September 2025

Note 2: Based on MDBA SDLAM Assurance report (December 2025), with outcome anticipated by SDLAM reconciliation.

²⁵ MDBA (2025) “Sustainable Diversion Limit Adjustment Mechanism: 2025 Assurance Report”

<https://www.mdba.gov.au/sites/default/files/publications/SDLAM-Assurance-Report-Dec2025.pdf>

Note 3: The Basin Plan limits the amount that SDLs can be adjusted, to up or down by 5%. At the time of the original SDLAM determination, the Basin-wide SDL was 10,873 GL, so 5% of this is approximately 543 GL. Therefore, a minimum of 62 GL of additional water savings through efficiency measures or additional held environmental water (i.e. under the '450 GL') is required to pass the 5% rule and achieve the full effect of the 605 GL. This is why 62 GL is referred to as the minimum volume, assuming a full 605 GL is achieved under supply and constraints. The maximum volume is 450 GL. This is further detailed in the below section.

NIC is concerned that the remainder of Basin Plan 1.0 is being treated in isolation of this review process. This risks:

- Public investment going towards what is no longer the environmental priorities in the Basin, with opportunity cost of forgone investment in today's environmental priorities; questionable use of Australian taxpayers' money, and significant impact on Basin communities;
- Further deepening trust-deficit of Basin communities – whom will be central to delivering many of the next steps identified in this review process, which inherently require partnerships for delivery (specifically constraints management, land and water partnerships, and many complementary measures). These same stakeholders are being asked simultaneously to participate in these MDBA-led processes in good-faith, while DCCEE is actively purchasing water in communities (or undertaking EOIs), with no certainty on the SDLAM shortfall – this creates large uncertainty for water security for farming communities (affordability, availability and accessibility), and their confidence in water management being evidence-based, effective and fit-for-purpose.

These remaining components are not small investments – with the WESA Review recently identifying an additional \$1.3 billion would be required to acquire the full 450 GL. These are also large risks for communities – and the Federal Government – which recent NIC work has identified.

Box: Key Findings from NIC Review of Additional HEW (the "450 GL")²⁶

- 1. The continued recovery of water beyond what is required for SDL compliance (i.e. additional HEW beyond 62 GL) is not commensurate with the scale and scope of Basin Plan implementation. The Federal Government has recovered more than double the minimum target and is now going beyond reasonable steps.*
- 2. 65% of entitlements purchased under the 450 GL program in the Southern Basin are subject to major delivery restrictions of some form, meaning they cannot be delivered through the river system as intended. For future purchases in EO1, 75% of what is on offer (and within market prices) is subject to delivery restrictions. This significantly reduces environmental effectiveness.*

²⁶ <https://www.irrigators.org.au/policy/murray-darling-basin-plan/review-of-additional-hew/>

-
3. *Continuing to recover additional HEW, without constraints relaxed, is acquiring a public asset with no certain pathway to it being utilised to intended effect, anytime soon. Prioritisation must be for community-supported constraints measures, prior to additional water recovery.*
 4. *Spending under the 450 GL program does not reflect the Government's own science on priorities for environmental investment in the Basin. The Government's own environmental science finds flow-based indicators performing well but non-flow-based indicators scoring more poorly. This supports focus on complementary measures, as a higher priority than additional HEW.*
 5. *The Government will have to purchase the equivalent of more than 100% natural market annual turnover to achieve the 450 GL target.*
 6. *100% of the 450 GL to date has been from water purchases in some form. There are no non-purchases options, all options by legislation must reduce the productive pool.*
 7. *Water recovery has not been steady nor staged, contrary to the Government's purchasing framework.*
 8. *Poor socio-economic assessment, including data limitations and poor program implementation, means the Minister cannot meet legislative obligations to robustly consider socio-economic impacts.*
 9. *Almost all Framework principles and key measures to minimise the adverse socioeconomic impacts have not been implemented.*
 10. *The use of rules-changes that have reliability impacts as a water recovery tool risks substantial financial liability on Basin States, and major governance challenges, rendering the approach non-feasible.*
 11. *The continued recovery of additional HEW cannot be considered value for money, as per the Commonwealth Procurement Rules.*

The evidence-base developed through the Basin Plan Review process must be used to inform the remainder of Basin Plan 1.0 – specifically the SDLAM shortfall, and ongoing water purchases under the 450 GL of additional HEW. In our view, the evidence-base of this Review makes clear that these programs are no longer the priority for the MDB, and instead, focus must now turn to the above recommended programs for Basin Plan 2.0, from this point onwards (without further water recovery). Failure to focus on these programs will undermine the investments made through Basin Plan 1.0, curtailing potential environmental outcomes.

Not only are these now considered higher-priority towards improving the environmental risks in the Basin (than further buybacks), but pushing-ahead with those very components of Basin Plan 1 risks the likelihood of success and willingness from communities to participate in the initiatives and programs required.

Key Recommendations: Basin Plan 1.0

The evidence-base developed through the Basin Plan Review process must also be used to inform the remainder of Basin Plan 1.0. – specifically, the SDLAM shortfall, and ongoing water purchases under the 450 GL of additional HEW. In our view, the evidence-base of this Review makes clear that these programs are no longer the priority for the MDB, and instead, investment must turn to the above opportunities to address the current drivers of environmental concerns in the Basin and optimise environmental water delivery. This means no further water recovery (by any means). Not only are these now considered higher-priority towards improving the environmental risks in the Basin (than further buybacks), but pushing-ahead with those very components of Basin Plan 1 risks the likelihood of success and willingness from communities to participate in the initiatives and programs required.

Part 3: Detailed response to proposed options

NIC Response to Specific Options Proposed in MDBA Discussion Paper (with additional NIC suggestions)

KEY
NIC proposed option
MDBA proposed option in Discussion Paper
NIC concern
NIC support

Theme	Options list	NIC Response (or reference to work further)
Overall objective and direction	<p>Shift from a Plan of water recovery, to a Plan of management (specifically integrated catchment management) for the Basin, seeking to achieve the further ecological outcomes (i.e. address the ‘at risk’ drivers) or optimisation of the environmental water already held via non-water-recovery means.</p> <p>Invest in a strategic and coordinated package of actions known as complementary measures for example, a strategic, inclusive MDB Native Fish Strategy to address invasive species, strategic prioritisation of barriers to fish passage, government supported fish screening, practical cold water pollution and integrating land and water</p>	<p>As per the Triple Crown of Water Reform Framework²⁷, the significant changes which have occurred via the Basin Plan (and other reforms to date) mean focus can now shift from Crown 1 (water-sharing), to Crown 2 (water management) and Crown 3 (integrated or complemented management) to achieve broader outcomes that water alone cannot deliver.</p> <p>See NIC Submission - Part 1 for details.</p> <p>The evidence-base provided through the Sustainable Rivers Audit (2025) and initial SDL Assessments suggests these are now the priorities, as:</p> <ul style="list-style-type: none"> * the current drivers of ecological risks cannot be addressed via water-volumes alone; * the further socio-economic impacts on communities if further changes to water-rebalancing water to occur.

²⁷ [Vol. 22, No. 2, 2025 - Breaking the hydro-illogical cycle - Australian Farm Institute](#)

management options for fish, and other objectives such as water quality.

Invest in voluntary land and water partnerships (with private landholders and IIOs), including for the delivery of environmental water to wetlands or riparian zones on private land – via co-beneficial and participatory processes.

Enable opportunities to strategically target environmental outcomes utilising novel market-based solutions such as lease or temporary purchase in partnership with water users.

Examples of complementary measures include: fish passageways, addressing invasive species (such as carp), fish screening, cold water pollution, riparian habitat restoration or native fish restocking.

Build on the exemplars of successes shown by IIOs and private landholders already, such as:

* Murray Irrigation’s Restoring Murray Waterways (RMW) project²⁸

* Renmark Irrigation’s Environmental Watering²⁹

* Coleambally Irrigation (CICL) Environmental Water Delivery³⁰

These sorts of measures enable environmental water to be used more efficiently and effectively, reaching areas of riparian zones higher into the floodplain that would otherwise not be watered via in-channel delivery (given constraints, or significantly larger volumes of water required); enable watering of environmental assets on private land which otherwise are not accessible (taking a landscape-level view of environmental assets, not just piecemeal), and fosters collaborations and involvement of communities in landscape management.

These partnerships are critical, given over 90% of wetlands in the Basin are on private land. Legal and financial constraints have restricted the implementation of event-based market alternatives to water entitlement purchases. Examples exist in the Condamine-Balonne³¹ that could be considered and explored throughout other ephemeral and/or unregulated streams, where infrastructure is limited.

This recommendation also applies as a option to be considered under Chapter 4, Chapter 5 and regulatory improvements would need to be made to enable this to occur and account or contribute to SDL (Chapter 10).

²⁸ [Restoring Murray Waterways - Murray Irrigation Project](#)

²⁹ [Water for the Environment - Renmark Irrigation Trust](#)

³⁰ [Environmental Water Delivery — Coleambally Irrigation](#)

³¹ [Narran Lakes Event Based Mechanism Pilot Project Review - Final Report - DCCEEW](#)

Process

Foster collaboration through Caring for Country programs.

Insert objectives linking to “Feeding Australia: A National Food Security Strategy”, relating to water security for agriculture.

More detailed response options must be identified on a local-reach and valley-scale (with communities) – particularly for those water sources with environmental risks identified in the initial SDL assessments.

The design of any Basin Plan 2.0 (as an Integrated Catchment Management Plan to optimise water recovered for the environment rather than a further water recovery plan) must focus on a process for empowering communities to be part of future solutions to achieve improved environmental outcomes whilst valuing their social, economic and cultural interests through co-design, and participatory processes – within a defined scope set of high-level programs, rather than the current inflexible, legislative outputs like SDLAM. Put simply – the process of shaping these projects may be part of the Plan.

Expand Caring for Country programs, and fund initiatives such as Cultural Billabong Watering, which seeks to achieve Cultural objectives in partnership with other stakeholders.

The Australian Government has committed to developing *Feeding Australia: A National Food Security Strategy*. The strategy ‘seeks to set a vision for a sustainable, resilient and secure food system that serves all Australians from producers to consumers’. NIC seeks that future water management in the Basin supports the objectives of that strategy, by facilitating the water security for farmers.

This is best generated through a bottom-up (not top-down) approach, via a participatory, co-designed approach with local communities to capture local scale opportunities. Put simply, scaling integrated land and water management from a local-level upwards.

It is reasonable to expect that valleys considered to have ‘at risk’ environmental outcomes as part of initial assessments should have further specific targeted consultation. This should focus on the specific options being considered, with the aim of informing the final SDL assessment for that region – e.g. informing a line of enquiry of what environmental outcomes could be achieved via (conceptually) targeted measures / projects. This is not suggesting finalising or locking-in specific detailed projects (see below), rather exploring the sorts of measures that are required and feasible to address those outcomes/risks. Substantial work will be required to work directly with stakeholders and communities, and to finalise any proposed detailed plans for specific projects, which is unlikely to occur prior to the intended legislative amendments in 2027.

Lessons learnt from the Basin Plan (specifically SDLAM) show the value of flexibility in legislative requirements to enable projects to be delivered, as well as the risks of attaching projects to threats of further water recovery (jeopardizing community support, collaboration and cohesion). Caution is required to avoid rushed processes; losing community support; or creating rigid legislative requirements that may block-out important or valuable projects, or create barriers to delivery, such as what has occurred via SDLAM.

An initial assessment of sustainable diversion limits (SDLS) (Chapter 3)

Prioritisation that is aligned with local, valley and basin scale drivers for environmental outcomes as well as social and economic outcomes, and demonstrates support to ensure success.

The initial SDL assessments for surface water have identified 4 priority issues requiring action: river connectivity in the northern Basin, end-of-system outcomes, floodplain and wetland health, and native fish decline.

The initial SDL assessments for groundwater show more work is needed in 3 groundwater SDL units, to determine whether the SDL reflects an environmentally sustainable level of take. These are the Upper Namoi Alluvium, Lower Namoi Alluvium and the Lower Gwydir Alluvium.

Given funding constraints, prioritisation will be important. Rather than asking the question of “what will achieve positive outcomes” the question must be “how to optimise outcomes most effectively and efficiently”.

NIC strongly support the approach of looking beyond just water volumes, and instead actual outcomes, recognising the drivers of ecological risks extend beyond what can be achieved via SDL adjustments.

It is important to recognise the positive outcome that of 29 surface water units, 21 confidently have an SDL=ESLT, with a further 5 likely, and only 3 unable to be determined.

NIC notes there are concerns for the valleys with environmental outcomes identified as 'at risk', which requires further processes to understand drivers, and work with communities to develop options to respond (see above). NIC again reiterates that most of the drivers identified in both the SRA and initial SDL assessments are beyond what can be addressed via further SDL adjustments, and would be much better targeted via complementary measures.

NIC notes specific detailed concerns with response options proposed under some of these priority issues, which are addressed in the relevant sections of this table. See Part 1 and Part 2 of this submission for further details.

NIC again supports the outcomes-based approach, and notes the success that a very large proportion of groundwater water sources were identified to have an SDL=ESLT.

For the remaining water sources, it is important further work is undertaken to ensure appropriate understanding before any decisions are made in particular, recognition of the current state-based interventions underway in these catchments. NIC refers to our member organisations submission in this water source for further details.

Maximising the benefits of water for the environment (Chapter 4)

The evidence-base from the initial SDL assessments must be used to inform the remaining components of the current Basin Plan.

Extend options beyond just water-planning for this chapter, to include project-based options – such as those proposed by NIC above in the ‘Overall objective and direction’ theme.

Reduce duplication and inefficiency in preparing annual environmental watering priorities and long-term watering plans.

Improve the Basin-wide environmental watering strategy to support strategic planning and transparent prioritisation of the environmental water portfolio.

The data shown in the initial assessments show little significant difference between LoE1 (current implementation) and LoE2 (with further water recovery towards the full 450 GL and 300 GL SDLAM shortfall). Where there are differences, these are typically with lower confidence, and already from a baseline of reasonably likely outcomes (see Part 2 of this submission). This makes it difficult to justify further expenditure on water recovery (such as the additional 450 GL of HEW or SDLAM shortfall) when the evidence says these are no longer the environmental priorities (and come at large public expenditure and socio-economic cost).

Given the new direction required for Basin Plan 2.0 on integrated water management – which necessarily requires community partnerships – it will be important to maintain trust and confidence by Basin communities in how these outstanding components are dealt with. Large-scale water recovery to address those gaps would not be conducive to the very important collaboration required for next steps.

NIC notes that the options proposed in the Discussion Paper for this chapter focus on water planning, and there are few (if any) options proposed in this chapter which seek to maximise the benefits of environmental water via projects (such as complementary measures or optimised water delivery or novel based, market solutions).

NIC recommends that a number of the NIC options outlined above in the ‘Overall objective and direction’ theme are considered also for the purposes of this chapter.

Support with community engagement processes for local opportunities.

Support in-principle to improve environmental water strategy – provided the strategy continues to operate with respect to the current frameworks of water management - i.e. respecting the reliability of water property rights, and other NWI characteristics of water entitlements, including the Risk Assignment Framework if impacts to the consumptive pool do occur (noting industry cannot support reliability impacts in any form, and market-based mechanisms as per NWI principles are the preferred approach in the event that

<p>Make adaptation explicit in environmental water planning. Require long-term watering plans to identify vulnerable environmental outcomes and transitioning ecosystems, and improve knowledge sharing through the environmental watering plans. Ensure environmental water is transparently accounted for and protected as it moves through the system. and monitoring of water for the environment to deliver improved environment outcomes, and support Cultural, spiritual and community co-benefits.</p> <p>Invest in coordinated and transparent environmental water delivery and outcomes reporting.</p>	<p>impacts occur, as a more transparent method and to avoid impacting all users). See NIC Reliability of Water Entitlements Position Statement.</p> <p>NIC also notes the ‘Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin’ (2013, updated 2019) clause below which is integral to the contemporary system of a water-property-right based system and must be continued: Clause 5.2 says: <i>"Except as otherwise agreed between the Commonwealth and the relevant State(s) to facilitate improved environmental watering, Basin States agree that the characteristics of licensed entitlements held for environmental use will not be enhanced or diminished relative to like entitlements held and used for other purposes. This includes that they will be subject to no less favourable conditions, including with respect to fees and charges, access to allocations, capacity to use, trade, and carryover, than like entitlements held for other purposes. The Parties note that any agreement to change the characteristics of licensed entitlements held for environmental use should not impact on another state's water availability, rights or entitlements under the Murray Darling Basin Agreement unless agreed to by the affected state."</i></p> <p>Support in-principle – noting further information would be required to consider in detail. Further work to clarify the future baseline for environmental outcomes will be needed as industry, communities and the environment share in climate change risk.</p> <p>Strongly supported – noting current data gaps on measurement and reporting, as well as gap for IGWC role on compliance of environmental portion of water take reporting. Further transparency on how environmental water is used and measured.</p> <p>Strongly supported – noting current gaps.</p>
--	--

**E-water
improvements**

Strengthen First Nations peoples' involvement in planning, delivery and monitoring of water for the environment to deliver improved environment outcomes, and support Cultural, spiritual and community co-benefits.
Embed First Nations knowledge. Integrate First Nations knowledge into monitoring, evaluation and reporting processes.
Enable environmental water holders to prioritise environmental watering in areas where land and water management actions are coordinated, where appropriate.

Extension of Caring for our Country program in key asset areas within the Basin.

Improve synergies between environmental, and cultural/spiritual objectives by including in remit of CEWO objectives.

Seek to recognise the environmental outcomes being achieved on private property (such as farms), beyond just key environmental assets in the Basin, and develop voluntary programs to support / incentivise participation.

Improve objectives for water quality as part of CEWH targets, broadening the use of HEW purposes.

NIC strongly supports improving general stakeholder involvement in environmental water management, including but not limited to, First Nations peoples.

NIC supports improving local knowledge inputs into environmental watering – including, but not limited to, First Nations peoples.

NIC is concerned that data is not sufficient to enable this, nor is there coordinated government investment in programs to improve the land and water management outcomes to enhance opportunities for complementary outcomes. NIC understands this could currently occur via CEWH decision-making, under the status quo but should not limit the delivery of environmental water to assets. Rather, perhaps more information on priority locations where such management would provide enhanced environmental outcomes in high priority or sensitive assets, may help to target future investment.

Expand Caring for Country programs, and fund initiatives such as Cultural Billabong Watering, which seeks to achieve Cultural objectives in partnership with other stakeholders.

Improve understanding/identification of synergies between environmental and cultural objectives, and ensure CEWH water entitlements can be utilised for purposes where there is this alignment to target both environmental and cultural objectives. Note: some NSW WSPs already allow this.

Recognising that over 90% of wetlands in the Basin are on private property, there needs to be a paradigm shift to valuing the full landscape, and not just select environmental assets or the river channel.

NIC does not support prescriptive top-down regulatory approaches to this – rather – that voluntary programs are undertaken to support landholders to undertake environmental management on land, including but not limited to environmental watering.

Clarify that water quality is an important environmental objective, and it is a valid use of HEW towards improving water quality (if deemed appropriate to the circumstances).

for water quality.

This is to address past experience of poor water quality events (particularly in dry times) where the CEWH has indicated that HEW is not for the purpose and not utilised towards this objective.

Improving river connectivity in the northern Basin (Chapter 5)

Include objectives and outcomes in the Basin Plan that specifically support end-of-system connectivity in the northern Basin.

NIC cannot support this chapter due to:

- The ephemeral, intermittent and episodic nature of river systems in the northern Basin which makes longitudinal end-of-system connectivity objectives not feasible for long periods of time;
- The ephemeral and intermittent nature of river systems in the northern Basin which means ecosystems are reliant on both wet and dry periods, and efforts to try and make the river flow constantly would be detrimental to these ecosystems;
- The relatively small regulating water infrastructure in the Northern Basin to regulate flows towards this outcome, so even if these objectives were in place, in dry years (when required) it would be not feasible to deliver water from these storages through dry river channels to the end-of-system anyway;
- The current work program being undertaken via a separate NSW Government process which has very poor confidence from stakeholders in the robustness of methods, and likely forthcoming legal challenge;
- The extreme impact this could have to water users in the Northern Basin, which poses not only exceptional socio-economic harm, but would require prohibitively expensive compensation to water users as a result of the reliability impacts to the consumptive pool (if undertaken via rules-changes) arising from the change in government policy (to which the financing of this remains unresolved if NSW proposals progress);
- There is little to no consideration in the Discussion Paper about the existing mechanisms already in place in the Northern Basin to manage for downstream outcomes. The NSW Government prepared a stocktake of existing connectivity rules in 2020.

<p>Improve environmental water management, coordination and planning in the northern Basin. NSW improves river connectivity across connected catchments of the northern Basin.</p>	<p>NIC appreciates the challenges experienced in the Northern Basin, Menindee Lakes, and Lower-Darling particularly during dry periods. These impact our stakeholders too. NIC recommends targeted measures are undertaken to provide alternative town water supplies to meet critical human water needs objectives (where relying on ephemeral rivers is too high risk) such as via infrastructure, as well as targeted arrangements for Menindee Lakes (such as fish passageway) as being considered via separate processes. There are also opportunities to look at the better management of HEW towards these outcomes.</p> <p>The focus on the Northern Basin does not appear to be backed by evidence-based data which if provided, we contest that more pragmatic solutions could be provided than the blunt and lazy options being proposed.</p> <p>Support - include broader stakeholder engagement from Northern Basin including industry, First Nations, Local Councils etc.</p> <p>See above.</p>
<p>Investment in infrastructure upgrades to improve town water supplies for communities in the Northern Basin, including to provide for alternative water supplies for systems reliant on surface water.</p>	<p>NIC agrees with the issues raised in the Discussion Paper regarding critical human needs challenges in the Northern Basin, which we believe is the result of continued under-investment in infrastructure, forecasting of risk to water security and discussion of risk appetite for communities and government. Every drought emergency options are explored and promptly forgotten about when rivers begin to flow.</p> <p>Infrastructure to support critical human water needs should be considered the highest priority for future Basin water management expenditure.</p> <p>NIC supports investment in options as a priority, such as:</p> <ul style="list-style-type: none"> • community supported weir upgrades, • improved capacity to treat groundwater reserves, • water recycling • exploration of alternative water sources where feasible.

<p>Improving floodplain and wetland health (Chapter 6)</p>	<p>Continue the New South Wales’ Murrumbidgee Reconnecting River Country program and extend the Gwydir Reconnecting Watercourse Country program beyond December 2026.</p> <p>Take practical and incremental steps to increase environmental flows in priority areas for the Goulburn and Murray, developed in consultation with, and supported by, local communities and landholders.</p> <p>As above - seek voluntary partnerships with IIOs and private landholders for environmental water delivery to sites within their footprints, seeking to deliver water further into the landscape than could otherwise be achieved.</p>	<p>These are not cheap, and limited funding has been available to support local councils in water security endeavours. A priority for Federal and State water portfolio expenditure should be ensuring water infrastructure is fit-for-purpose for contemporary needs, including specifically town water supply. The NIC note this is not an issue confined to the MDB specifically and national support should be considered.</p> <p>Subject to community support, noting this may require a localised re-set of programs.</p> <p>Subject to community support, noting this may require a localised re-set of programs and the opportunity to look at novel solutions, targeted at risks to environmental outcomes. Any future program must be evidence based and reflect any changed environmental objectives downstream such as in the Murray Mouth.</p> <p>See above recommendation, and exemplars of success and what’s possible.</p>
<p>Responding to native fish decline (Chapter 7)</p>	<p>Consider a targeted package to restore native fish at priority locations in the Basin that may include, barriers to fish passage and other hazards, fishways, multi-pronged approach to invasive species, re-stocking, instream riparian habitat.</p>	<p>Strongly support (subject to funding arrangements) recognising the importance of complementary measures to achieve ecological outcomes in the Basin that water alone cannot achieve. The evidence-based from the SRA indicates this is now the highest environmental priority.</p> <p>NIC supports a MDB Native Fish strategy with industry involvement, to provide strategic support and prioritisation of joint efforts of Basin governments.</p> <p>NIC notes that many measures (such as fish passageways) are currently funded in many Basin States via cost-recovery from water users (e.g. NSW is a 80:20 cost-share, with</p>

Managing water quality (Chapter 8)

Improve Basin water quality management by strengthening objectives and targets.

Ensure Basin governments work together to manage water quality hotspots by tackling the root causes of poor water quality and strengthen Basin governments' joint capacity for preventative action and early intervention.

Develop opportunities for First Nations peoples to participate and contribute their science and knowledges to understanding water quality, including through monitoring programs.

Develop a portfolio of diverse water quality improvement mechanisms – beyond just flow-based or dilution measures – to target the diverse drivers (such as carp or sewage / point-source drivers), or opportunities for riparian area management to improve outcomes (such as through sedimentation).

water users carrying the bulk of this). This has been a prohibitive cost-barrier to further rollout of these sorts of measures.

Given the scale and cost of measures (alongside tough regulatory and financial conditions already for water users with water licences fees and charges already exceeding capacity/willingness to pay) – this will require a Government funded investment to finance these projects, as water users cannot pay.

NIC recommends including (high-level / conceptual) water quality objectives for the use and management of HEW, to enable environmental water holders to consider water quality benefits and impacts of watering decisions and use. Note – current data gaps would make this difficult and not advisable to quantify at this point (noting lessons learnt in Basin Plan in inserting unachieved numerical targets).

Support in-principle – recognising a facilitation role may exist but further detail is required to determine what lever/program.

Support in-principle but note potential data gaps.

The Cultural Billabong Restoration Project is a First Nations designed project which includes water quality objectives, seeing the billabong as a 'kidney' to the river system filtering out toxins and releasing cleaner water. NIC supports projects of that kind.

NIC calls for a shift away from just water-based responses to water quality, such as dilution flows, but to look at non-water based solutions, which requires identifying the diverse contributing factors to poor water quality, and developing a portfolio of measures to target each. For example, integrating wetland and carp management, riparian management options to improve water quality outcomes. These allow a greater likelihood of success through diverse drivers / mechanisms, but are almost a much more water efficient option.

Water infrastructure and critical human needs (Chapter 9)

Modernise water infrastructure across the Basin to reduce the risk of asset failure and safety risks, and to deliver on a broader range of values and interests, including improved Basin Plan outcomes.

Consider minimum water resource plan requirements for state-based extreme event water planning to ensure adequate consultation processes and that planning is underpinned by robust climate assumptions.

Consider what support regional water utilities (such as WaterNSW) may require financially to remain viable into the future, when determining priorities for

NIC queries whether this is within the scope of the Basin Plan necessarily, but nevertheless, it remains an important consideration for the water portfolio, and in our view, one of the highest priority for current water portfolio expenditure.

NIC recommends an immediate program to ensure infrastructure ‘assets which are near or passed its engineered life span and increasingly vulnerable to failure’ (P 69), receive the government funding and political urgency required to ensure they remain safe, operational and fit-for purpose which should include recognition of a range of new beneficiaries of this infrastructure. This is in the interests of all stakeholders, including for environmental water stored in these storages, as well as for the irrigation sector. Given the significant money already expended to acquire these water entitlements (and the capital already invested in assets), ensuring they are appropriately maintained must be a priority.

In addition to these short term actions, NIC recommends a long-term (say 50 year) multi purpose Basin-wide infrastructure review to ensure infrastructure maintains fit for purpose into the future.

NIC also notes the current pricing models (such as impactor pays) which heavily burdens water users with costs for infrastructure CapEx and OpEx. In many areas (such as NSW which is struggling to cost-recover to the level of expenditure required already), a government funding program will be necessarily, as these costs will far exceed what water users will have the ability to pay.

Consider principles that can be incorporated in state systems, about growth and risks, acknowledging the limitations to current supply systems. Note lessons learnt from prescriptive approaches previously.

NIC notes that the current water pricing determinations in NSW have resulted in prohibitively high costs for WaterNSW to meet regulatory requirements and provide services, which are beyond the ability to pay for water users to pay for cost-recovery under current frameworks. This is the subject of a separate program of work by the NSW

**Basin Plan
regulatory
design
(Chapter 10)**

Basin water management, given current pricing determination concerns.

Consider ways to reform WRPs by focusing the requirements on what matters most or shift away from accreditation to oversight of Basin states.

Improve SDL accounting and compliance including clarifying definitions and improving consistency and knowledge.

Government, supported by IPART, to determine a way forward, and to date remains unresolved. In determining priorities for the water portfolio in the Basin, the current financial predicament of regional water utilities like this must be considered, given the reasonable likelihood that a government bailout may be required, or some form of funding injection to remain viable. In the absence of an effective water utility to deliver water and manage the system, everything else will fall apart.

NIC supports simplification.

NIC queries whether a separate WRP is actually required, or rather, if the MDBA can simply assess whether the state-based WSP meets Basin Plan requirements – given that is the primary regulatory instrument. Essentially, all a WRP does, in a practical sense, is act as a guideline to say how the water source will meet Basin Plan requirements, but the actual instrument that manages for this outcome is the WSP. NIC is of the view that the importance placed on the WRP is disproportionate to the role it actually serves in a practical sense.

Where there are unique features of a WRP different to simply pointing to a WSP, these could be documented in a guideline or reference document (such as LTDLE factors). Whether an entire new instrument, with a rigid accreditation process, and significant duplication, achieves any benefit (in the context of the extensive bureaucratic resourcing required, and cost of that resourcing, and risk of confusion of inconsistencies), is a valid consideration.

There is a need to more clearly publish information about SDL compliance, to help build public confidence in water management. With SDLs coming into effect in 2019, there is now full compliance, however, many stakeholders fail to recognise this. This is partly due to the complexity of reporting.

The accounting and reporting processes are also very inefficient and have long time-lags. or example, in reports of compliance with SDLs, this data is provided by the Basin States to the MDBA to compile into Registers of Take and assess whether water take accounting was consistent with the method in the Basin Plan – which is then provided to the IGWC to

	<p>report on. This is a minimum three-part process. NIC refers to our submission on the Statutory Review of the IGWC for further details on this.</p>
<p>Improve accounting and compliance of the use and management of HEW</p>	<p>There is a need for greater accountability on the management decisions for the use of HEW, as a public asset. For example, if an environmental water holder decides to release a large portion of their entitlements during a wetter year, and then have no or little water remaining for subsequent drier years, there is currently little scrutiny over those decisions.</p>
<p>Report on underusage of water in SDL accounting, not just overuse compliance risks</p>	<p>Currently, SDL compliance is assessed in terms of if water extractions go above SDLs (within compliance thresholds). However, the trend that is emerging is the opposite – underusage, with SDL credits accumulating. While this is documented in the detail of SDL reports if a stakeholder knows where to look, it receives very little attention in the interpretation and communication of SDL reporting, and there is no current policy initiatives underway to seek to improve under-usage non-compliance to ensure Basin States are enabling usage up to the SDL. Further work is required to continue work programs on understanding the drivers of underusage, and exploring options to ensure there are no policy barriers to underusage.</p>
<p>Develop a register to track the reliability of water entitlements to ensure States are not breaching NWI principles of impacting water access entitlements</p>	<p>NIC is concerned by the tendency for Basin-states to undertake rules-changes (such as WSP amendments) and not manage those impacts to the consumptive pool via the agreed processes from the NWI, such as the Risk Assignment Framework. At present, there is no accountability on Basin States who do this, despite impacts to water users reliability (including CEWH assets). A process to identify impacts, account for them, and ensure Basin States are following NWI commitments, is critical to both industry and the CEWH.</p>
<p>Refine water trading rules to improve how exemptions for environmental water delivery work, support compliance and align with broader water market reforms.</p>	<p>NIC seeks more information on what is intended by this option, as special treatment for one party over another, particularly in the water market, cannot be supported.</p> <p>NIC again notes the ‘Intergovernmental Agreement on Implementing Water Reform in the Murray Darling Basin’ (2013, updated 2019) clause below: Clause 5.2 says: <i>"Except as otherwise agreed between the Commonwealth and the relevant State(s) to facilitate improved environmental watering, Basin States agree that the characteristics of licensed entitlements held for environmental use will not be enhanced or diminished</i></p>

Improving science and knowledge to inform the Basin water management (Chapter 11)

Streamline Basin Plan reporting to support compliance, outcomes assessment, First Nations participation and adaptive management.

Build understanding of the complexities and interactions of environmental, economic, social and Cultural outcomes in the Basin through sustained research capacity, community involvement, and a greater focus on science synthesis, collaboration and communication.

Strengthen opportunities for First Nations peoples to contribute their science and knowledges.
 Monitor water flows, availability and river connectivity, and how these interact with ecosystems and climate change, to ensure effective water planning and delivery across the Basin.
 Enhance groundwater knowledge across the Basin
 Increase our knowledge on how native fish can better be protected at the Basin scale.
 Improve understanding of water quality drivers and impacts to deliver a greater predictive capacity, so water managers can pre-empt events.

relative to like entitlements held and used for other purposes. This includes that they will be subject to no less favourable conditions, including with respect to fees and charges, access to allocations, capacity to use, trade, and carryover, than like entitlements held for other purposes. The Parties note that any agreement to change the characteristics of licensed entitlements held for environmental use should not impact on another state's water availability, rights or entitlements under the Murray Darling Basin Agreement unless agreed to by the affected state."

NIC see that the core role of Basin Plan, and thus reporting, is to enable and enforce SDLs. NIC is unsure what is meant by enforcement beyond this, and questions the boundary of the role / limitation of the Commonwealths jurisdiction, with States primarily responsible / holding powers for water management.

NIC agree with this option, noting clear data gaps particularly on socio-economic (both community and agriculture industry) conditions and impacts, as outlined above in Part 3.

Support

NIC support in-principle but seek further information on what is intended, and whose role this would be (i.e. currently States monitor this data). This work would need to build on, not duplicate, existing efforts such as the BoM water information portal, or the NSW Water Insights.

Support

Support

Agree - data gaps on water quality drivers mean there are limited actions that can be taken to directly target those drivers. See above section on water quality.

<p>Improving socio-economic assessments (Chapter 11b)</p>	<p>Address knowledge gaps preventing more targeted action shown by the initial SDL assessments relating to groundwater, environmental condition and non-water drivers.</p>	<p>Agree – see above section on SDL assessments.</p>
	<p>Improve methods for SDL accounting to more accurately estimate water take and future demands.</p>	<p>Agree – noting we do not consider this to be a significant problem at present, but are not opposed to further continual improvement.</p>
	<p>Improve modelling and predictive capacity by continuing collaborative development of models and forward-facing tools with Basin governments.</p>	<p>NIC seeks further information on this, and what is intended, given current water source models are decision support tools, not predictive. Different models will be needed for different purposes.</p>
	<p>Improve understanding of measurement processes and accuracy of environmental water, to understand delivery and measure outcomes.</p>	<p>While water use for irrigation can be measured via point-source meters, there is currently no equivalently accurate method for measuring environmental water use in most circumstances (except where delivered via infrastructure with a meter, and except based on dam releases). This leaves a gap in measuring outcomes.</p>
	<p>Establish systems to collect and monitor localised community profile information to improve socio-economic assessments in the Basin.</p>	<p>This is noting that socio-economic data used in the Basin Plan Evaluation is only required to be collected at a Basin-scale, which smooths over impacts at a local and industry level, where they are felt most.</p>
<p>Improve counterfactual analysis to assess impact and benefits of the Basin Plan.</p>	<p>This option would seek to gather improved, interoperable community data and flow through measurements of regional economies including working with industry and communities to understand these relationships. This includes a repeat of the community profiles undertaken in 2016/2017.</p>	
<p>Improve counterfactual analysis to assess impact and benefits of the Basin Plan.</p>	<p>See socio-economic chapter of NIC Basin Plan Review for further details. This is in response to the findings of the Basin Plan Evaluation (2025) in which communities felt the findings did not reflect their lived experiences, and that it down-played impacts as they were not based on a valid counterfactual. This meant that stable trends, for example, were interpreted as a positive outcome – even though with a valid counterfactual, this would show that growth or improved outcomes otherwise would have occurred.</p> <p>See socio-economic chapter of NIC Basin Plan Review for further details.</p>	

**Resolution to
Basin Plan 1.0**

Evaluate existing community support programs and determine if funding is adequate, and extend given the time lag of impacts.

There is a general consensus that existing community support programs are not adequate, disproportionate given the scale of impact, and not well utilised.

NIC is also concerned by a prevailing (incorrect) view that these programs are able to offset the impacts of water recovery – which from lived experience – this is not the case, as the local economy continues to suffer from the lost employment and economic revenue.

Consider impacts to water market prices as a socio-economic impact

See socio-economic chapter of NIC Basin Plan Review for further details.

NIC has been concerned that recent assessments have disregarded water market price impacts from legislative requirement for socio-economic considerations – given they have a significant impact on farmers and business decision-making, including long-term viability (particularly of certain commodities).

Further flow forecasting and monitoring in ephemeral systems to improve general forecasting inputs

This would be valuable to inform predictability of water allocation in both the Northern and Southern Basins.

Maintain SDLs at current SDLAM adjusted levels, and monitor.

Given the environmental outcomes being reported across the Basin, there is not an evidence-base to justify further changes to SDLs (or even to remove the SDLAM adjustment offset).

The evidence-base shows that the costs which would be required to obtain that shortfall (whether via buybacks or other means, neither of which are supported) would be exceptionally large. There is no evidence to justify this would be value for money, and to the contrary, evidence suggests it is not (see NIC Report on the additional 450 GL). At best, it is definitely not the environmental priority for investment, and comes with concerning socio-economic impacts.

It is critical to acknowledge that future implementation options in the Basin require a strong level of trust and cooperation and collaboration with communities, and farmers. The decisions Governments take in response to the Basin Plan 1.0 elements will set the tone for the future ongoing working relationship with those critical to success.

See Parts 1 and 2 of this submission for further details.

Update methodologies for SDLAM assessment to better recognise and account for its value

Explore alternative options to finalise SDLAM, without further water recovery.

Develop a pathway forward on community-supported Constraints Management (in some form)

NIC anticipates that the environmental benefits from SDLAM projects are greater than initially modelled. Opportunities to factor in these improved outcomes are required, particularly if considering a SDLAM shortfall.

Options may include:

- Invest instead in a strategic package of complementary measures, or water delivery partnership options, on the basis new knowledge now says this would provide better outcomes than the water recovery option
- Develop a SDLAM Roadmap (tied to the Constraints Roadmap), noting this is least preferred, but remains preferable to SDL changes.

The purpose of this is to provide no negative impact at SDLAM reconciliation.
See above section.

Part 4 – further considerations

Socio-economics

NIC notes the Discussion Paper did not cover socio-economic impacts of the Basin Plan, which is a large omission given the Act requirements for triple-bottom line outcomes.

This said, recent efforts to determine socio-economic impacts (such as in the 2025 Basin Plan Evaluation) have been problematic, leading to disputed outcomes that do not reflect the lived experiences of those in Basin communities. This was due to:

- Legislative requirements (for the Evaluation) to assess socio-economic impacts at a Basin-scale which smooths over localised impacts at a community or industry-scale;
- Data gaps with poor long-term data availability to measure impacts;
- The methodologies used for socio-economic assessment are poor, and often understate the true impacts, particularly at a community and industry level.

As a result, it is our view that the impacts of the Basin Plan on agriculture remain unknown (or at least not formally documented and quantified) at a range of scales important to Basin communities. NIC does not support using the findings from the 2025 Basin Plan Evaluation in the Review, due to concerns raised around accuracy and data limitations.

However, this does not mean socio-economics should be disregarded, or omitted entirely from the final Basin Plan Review, rather, further work is required to better understand these impacts, and develop pathways to rebuild trust and confidence with Basin communities. A key step to that is acknowledging and recognising impacts to date, and the need and desire for further work to better manage such impacts / outcomes moving forward. In the interim, given Basin community and industry impacts are (at best) unknown, but widely reported by communities as having significant harm, a pre-cautionary approach must be taken to avoid further harm to communities.

Recommendation: Given the known data limitations, it (at least) cannot be concluded that communities can absorb any further water recovery. The MDBA should be clearer that this is not a viable option. Further work to better understand socio-economic impacts, particularly at a community and industry level is needed. Reporting on community, water resource and Basin-scale socio-economics should become a broader objective of the Basin Plan.

For further details – see the NIC Basin Plan Review – Communities and Agriculture chapter³² which is also formally submitted to this consultation, and NIC socio-economics page³³.

³² [National Irrigators' Council - 'Moving Forward' Our Review of the Murray Darling Basin Plan](#)

³³ [National Irrigators' Council - Socio Economic](#)

Appendix 1 below provides a summary of this Chapter, and the below box outlines key recommendations by NIC in our review.

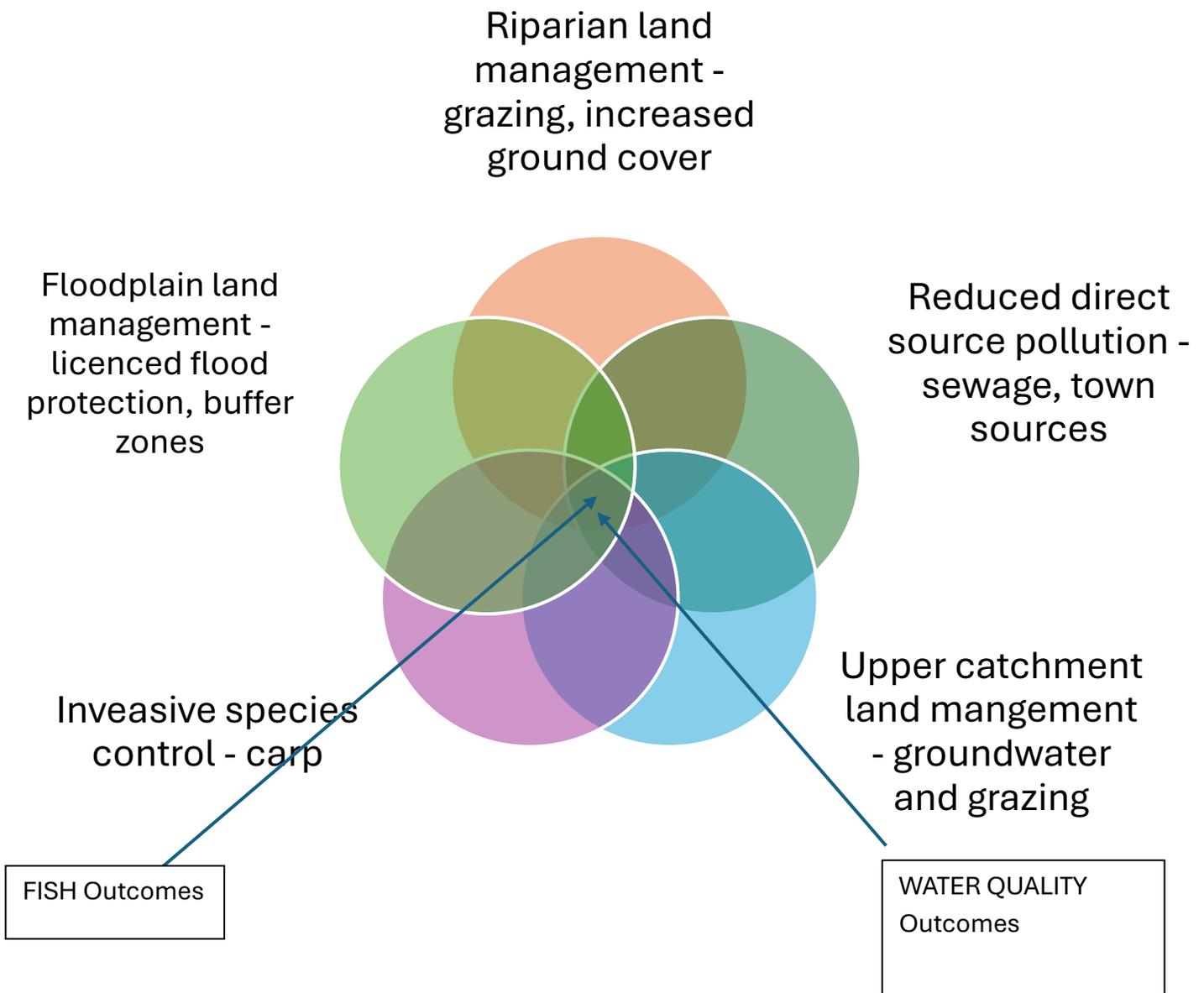
Box: Key recommendations from the NIC Basin Plan Review – Communities and Agriculture

- 1. Replicate the ‘community profile’ process with communities – this will provide updates to the data (important since further water recovery has since occurred), and show longer term trends (important given lag impacts).*
- 2. Evaluate Community Support packages and determine if the value of funding is adequate for the task - to stimulate economic development, undermined by water purchases. Create clearer expectations about the purpose of these programs – i.e. if they can feasibly offset the full impacts of water recovery, or not.*
- 3. Provide Government investment into data collection of irrigated agriculture and water use to ensure a robust evidence-base to monitor changes over time. This should seek to reinstate the data collection processes which were removed, and undertake best endeavours to account for the years missed.*
- 4. MDBA to work with agricultural commodity groups to improve understanding of the changes to industries over the course of the Basin Plan, including the reported drivers of change. This is critical to ensure true impacts are understood, and the various impactors (both positive and negative) are accounted for in how data is interpreted and explained.*
- 5. Improve counterfactual analysis to be able to account for impacts caused by the Basin Plan. It is not satisfactory for communities that the impacts of the Plan are found to be ‘not measurable’, as the expectation has been that Governments are tracking / monitoring these impacts, so that decisions can be informed.*

Water Quality

Water quality has a complex regulatory system, between water, land and pollution management with a broad range of drivers that can be direct and non-direct influence. Any strategy must recognise the complex interplay and the bulk of the regulatory responsibility with States. The opportunity exists for the Basin Plan to consider how its construct and focus (within its direct line of responsibility) can value add on other works rather than seeking to resolve the problem within the Basin Plan itself. For example, the below Figure highlights the many actions that could be taken under a Native Fish Strategy that have direct benefits to Water Quality.

Figure: Interactions between a native fish strategy and a water quality strategy outcomes



NIC calls for a shift away from just water-based responses to water quality, such as dilution flows, but to look at non-water based solutions, which requires identifying the diverse contributing factors to poor water quality, and developing a portfolio of measures to target each. For example, integrating wetland and carp management, riparian management options to improve water quality outcomes. These allow a greater likelihood of success through diverse drivers / mechanisms, but are almost a much more water efficient option.

Infrastructure / Critical Human Needs

NIC is concerned to hear of the risks of ageing water infrastructure, which poses risk to not only water security for agriculture, and critical human water needs, but also environmental water regulation and major safety concerns. Specifically:

“Much of this river infrastructure, including for town water treatment and supply, is near or passed its engineered life span and increasingly vulnerable to failure... The Australian Government and southern Basin state governments manage and fund River Murray infrastructure assets – valued at around \$6 billion – but do so within constrained budgets. Current capital expenditure is one-third to half the necessary level to sustain this important asset base over the long term. Ongoing underinvestment in major asset maintenance and renewal has led to major condition, capability and operability issues at some assets.”³⁴.

While Basin governments are considering how to respond to these risks separately, this again reiterates the importance of prioritisation when it comes to expenditure within the water portfolio. In our view, having safe, well-maintained, fit-for-purpose and operational water infrastructure is of utmost priority. Adequate infrastructure is essential foundations to the entire water management system as we know it today, with regulated rivers. Prior to any further water recovery occurring, addressing these infrastructure concerns to store that water (and other water) is of utmost priority.

NIC shares the concerns regarding inadequate water security for town water supplies in some parts of the Basin. NIC respects the hierarchy for the prioritisation of water, which places critical human water needs well above water allocation for agriculture. At times when critical needs become threatened, the allocation of water to lower security water licences has typically ceased or is very limited. Investment in alternative water supply infrastructure and technology to improve water security is critical.

Role of a Basin Plan 2.0

NIC believes a core question to explore in this review is: what does a Basin Plan look like moving forwards?

In many respects, the Basin Plan (in its current form) was an enabling agreement, to provide for the transition of water diversions from the BDL to an SDL. Now that transition has occurred, and SDLs are in effect, the maturation of the Basin Plan to more of an operational instrument (than a transitory one) must be a key part of this review. For instance, many components of the Basin Plan (such as SDL compliance, environmental watering plan, or water trading rules) will have enduring relevance. However, the components relating to water recovery are now largely actioned. This provides justification for the shift from a ‘plan of water recovery’ to a ‘plan of management’.

It is often assumed that all issues in the Basin are to be addressed by the Basin Plan, but this is not correct. Clearly articulating the role, scope and limitations of the Basin Plan (as well as other instruments) will be critical going forward.

³⁴ [2026 Murray–Darling Basin Plan Review Discussion Paper](#)

Governance

A key question moving forwards relates to governance. With water management powers vested with the States, the extent of Commonwealth powers is limited, and thus the role for the Commonwealth is an important consideration.

It is noted that the ability for the Commonwealth to make the Basin Plan required relying upon the Commonwealth 'external affairs' powers (as it related to international agreements such as the Ramsar Convention), as well as some limited and specific referral of powers. It will be important to clearly identify the boundaries of the Commonwealth jurisdiction as a key part of this review, to understand the role of the Commonwealth (and its agencies) moving forwards.

For example, many of the issues raised in the Discussion Paper relate to integrated land and water management. In this instance, the role of the Commonwealth would be coordination and funding, with the states or local authorities (such as catchment management authorities) the main delivery partner.

State cooperation

Given the current Constitutional power structure, next steps under any future Basin management will require cooperation with Basin States.

The experiences from Basin Plan show many lessons learnt when it comes to working cooperatively with the States.

1. Processes that are top-down or prescriptive have lacked community-support, missing important opportunity to work together with local communities on community-designed and community-supported projects, drawing on local knowledge and values.
2. Rigid criteria or requirements have led to worthwhile projects being abandoned, or not even considered, while a lack of flexibility has led to suboptimal outcomes.
3. Mechanisms which 'threaten' states with further water recovery have led to distrust, divides, frustration and a lack of constructive basis to work collaboratively. It also wrongly places the burden on communities, instead of the States, to deliver projects – which drives tension and poor perception by communities.
 - The idea of 'volumetric equivalence' has diminished project value in which they should be valued for their own environmental merits. This has led to environmentally-valuable projects being reduced in perception to simply an 'offset' rather than an important environmental project, critical to Plan objectives.
4. Lack of long-term funding certainty has created resourcing pressures amongst states, creating a 'stop-start' effect, losing key personnel, adding to stakeholder fatigue, slow progress and a lack of continuity or long-term processes.

Partly by necessity (in the Constitutional powers), and partly from the lessons learnt to date, it is clear that when it comes to the question of the ‘carrot or the stick’ – the approach should be one of supporting ground-up outcomes, working together with communities and States.

Further consultation and decision making

It is unclear from the Discussion Paper what the next steps will be in continuing the Discussion Paper conversation, prior to the requirement to make a recommendation to the Minister in December 2026.

The submission process is likely to yield a diverse range of views as well as, new options for consideration. However, some options will not yet be fully understood, pending the need for further localised, ground-up discussions as proposed within this submission.

The MDBA should provide clarity on their proposed next steps for engagement, as well as transparency on decision making.

Miscellaneous

- It will take time to realise the full extent of Basin Plan outcomes from the efforts to date – it is important to recognise these time lags before taking further on water recovery, given the financial and socio-economic impacts. A precautionary approach to socio-economic damage must be considered.
- NIC is concerned that some stakeholders continue to call for further water recovery, based on data that is now over 15 years old, from a period prior to major reforms like the Basin Plan. It is crucial that an evidence-based approach is taken, based on the best-available science, which recognising the new regulatory environment that now exists (and substantial changes since that time).
- There is less information in the Discussion Paper materials on the Lower Lakes than expected, compared to other areas of the Basin. Given the initial SDL assessment for the SA Murray, further information would be required to inform stakeholder responses.
- NIC notes the several concurrent reviews and reforms – including but not limited to the Water Act Review, and NWA. Alignment with these processes is important. NIC is concerned that (compared to when these reforms were initiated in the late 90s and early 2000s), there is no clear vision or problem-definition – rather, it feels like updates for updates sake. If any significant change is to occur it must be justified by a clear problem-definition.

Conclusion

To be completed.

Appendix 1) Summary of NIC Basin Plan Review socio-economic chapter

NIC Review of 2025 Basin Plan Evaluation socio-economics

The socio-economic findings of the 2025 Basin Plan Evaluation were heavily criticized by communities and the agriculture sector. Many of the findings did not reflect the lived experiences by people in the Basin, resulting in low-confidence.

NIC does not support including that work in the final Basin Plan Review, as it is heavily contested and lacks a robust evidence-base to warrant its accuracy. NIC recommends further work is undertaken at a community and industry scale to understand these impacts.

Case study: Impacts of water reform on GVIAP

The most recent ABS data show a gross value of irrigated agriculture (GVIAP) in the Basin of \$9.8 billion in 2020–21 (in 2023–24 dollars), compared with \$9.3 billion in 2012–13 and \$7.7 billion in 2007–08. This represents a 6% increase since the Basin Plan was introduced in 2012–13 and a 27% increase since water recovery commenced in 2007–08. However, looking across all years from 2005 to 2021, the overall trend in real GVIAP in the Basin was flat.³⁵

However, this does not reflect a ‘no impact’ scenario. To the contrary, given the shift in commodity production over this time period to higher value commodities (i.e. more value for every ML of water), as well as productivity gains, a ‘flat’ trend over this period is more likely to reflect very significant impacts to the agriculture sector overall, particularly to some commodity sectors. There is no counterfactual presented of what this outcome would have been in the absence of water recovery, and further, looking beyond ‘value’ to the other measures of agricultural sector prosperity.

³⁵ [2025 Review of the social and economic impacts of the Basin Plan](#)

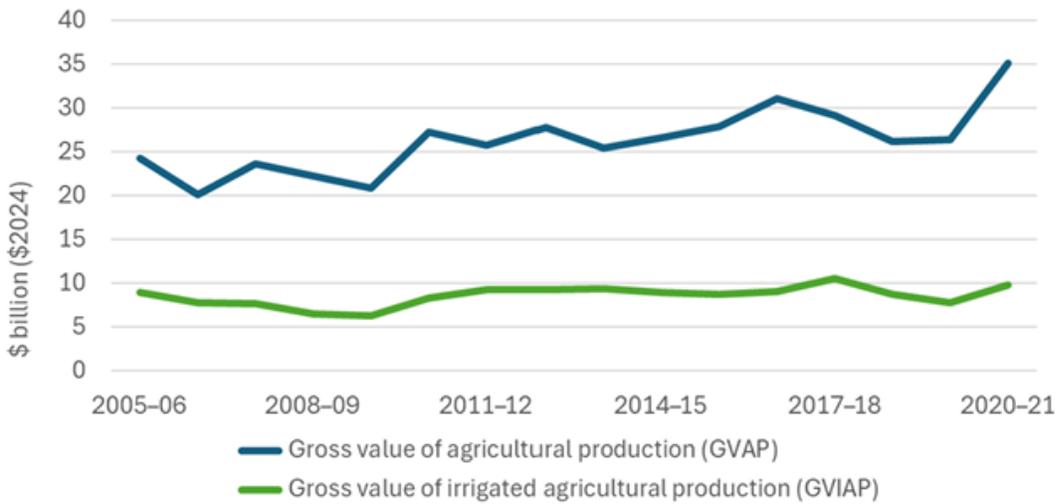


Figure 3 Gross value of agricultural production (GVAP) and gross value of irrigated agricultural production (GVIAP) in the Murray–Darling Basin in 2024 dollars. Source: MDBA calculation using ABS data. Adjusted for inflation using June quarter consumer price index for each financial year. Data for 2005–2018 are from ABS (2019). Data for 2018–2021 are from ABS (2023b), aggregating natural resource management (NRM) regions.

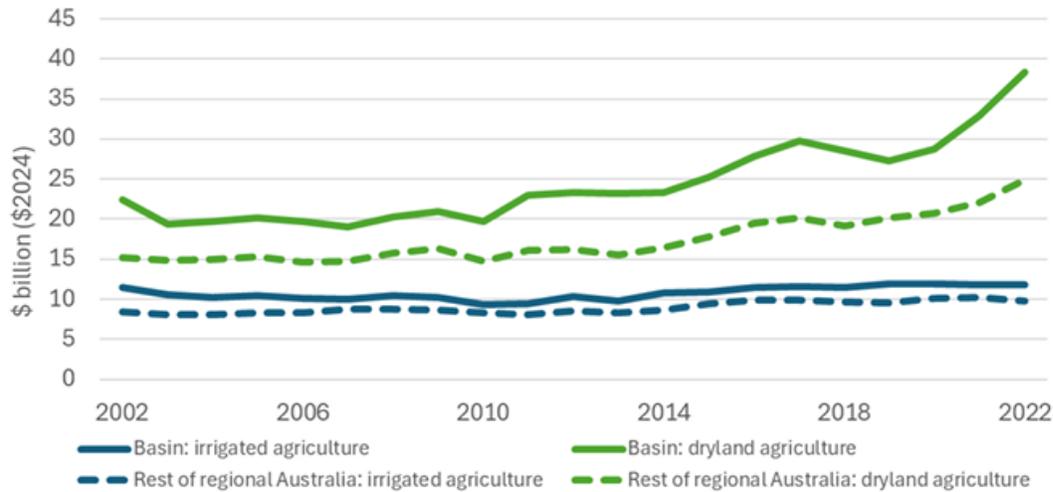


Figure 4 Dryland and irrigated total agricultural turnover, in 2024 dollars, for the Basin and RoRA, 2002–2022. Source: MDBA calculation using MJA (2025) data. Inflation adjustment is based on the June quarter Consumer Price Index (CPI) in each year.

Critique of Basin Plan Evaluation

The below table shows specific issues with the socio-economic findings in the 2025 Basin Plan Evaluation.

Table 3: Analysis of 2025 Basin Plan Evaluation Findings

Evaluation Finding	Analysis
Factors other than the Basin Plan account for at least 95% of observed outcomes for overall	This does not reflect community experiences and observations on the ground. The methodology for

<p><i>agriculture and irrigated agriculture turnover in the southern Basin over 2009–2022.</i></p> <p><i>Most of the changes in economic conditions in the Basin are due to factors other than water recovery.</i></p>	<p>this finding is queried. It is recommended that this work is compared with qualitative data to hear from communities about their experiences of reform, and drivers of change.</p>
<p><i>Agricultural production continues to grow in the Basin. The gross value of agricultural production has grown 49% since 2007.</i></p>	<p>While this may be true, this must consider the counterfactual of how much more it would have grown without the impacts of the Basin Plan. A large driver of this has been productivity gains, and a shift to higher value commodities (driven by water markets). This must also consider the baseline to which this is being measured – the Millenium Drought.</p>
<p><i>In real terms, the gross value of agricultural production (GVAP) in the Basin in 2020–21 was about \$35.1 billion, compared with \$27.8 billion in 2012–13 and \$23.6 billion in 2007–08. This represents an increase of 26% since Basin Plan adoption in 2012 and 49% since 2007.¹⁹ This increase was measured against a low base at the end of the Millennium drought. The Basin’s GVAP grew strongly in 2020–21 after a period of contraction following the Tinderbox drought. Agricultural business turnover has also grown in real terms, from just over \$29 billion in 2010 to around \$53 billion in 2022 (in 2023 dollars).</i></p>	<p>As acknowledged in the report, this is being compared to the baseline of the Millenium Drought. This presents a misleading indication of the impacts of the Basin Plan.</p> <p>This data also ceased to be collected in 2021, meaning more recent water recovery, and lag impacts, are not accounted for.</p>
<p><i>Marsden Jacob Associates (2025) reported that agricultural businesses in the Basin have continued to grow in terms of real business turnover at an average rate of about 2.2% a year.</i></p>	<p>Turnover is not an appropriate indicator. Profitability would be more accurate, including analysis of impacts of input prices (i.e. water prices), and what declines in profitability will then mean for on-farm decision-making, such as employment, investment, etc.</p> <p>While the finding of 2.2% still does represent billions of dollars, this appears significantly smaller than expected. We seek further information on the modelling of this and the methodology used, to ensure this figure is accurate.</p>

Assessing socio-economic impacts

Sefton Inquiry

The Independent Assessment of Social and Economic Conditions in the Basin is perhaps the most comprehensive recent work on social and economic to date. However, it too acknowledges the significant limitations in data, which impedes understanding the full extent and nature of impacts.

Commissioned social and economic condition research and our consultations highlighted that (a) there are significant gaps in information on the current social and economic conditions of Basin communities, and (b) Basin reporting is often based on out of date data. More and better information is needed, at a more local scale. These data limitations should be kept in mind when interpreting social and economic condition measures discussed in this section.³⁶

However, importantly, despite these data limitations the Assessment still found impacts from water reforms across communities, in both quantitative and qualitative data.

The cumulative effects of water reforms have flowed, and will continue to flow, through communities. In aggregate, the reforms outlined in this chapter have been significant and have considerably changed the operating environment since the 1990s. Further, the effects of these reforms are still playing out across the Basin.³⁷

The availability of data is a repeated theme across all socio-economic assessments to date. The most useful data has been the Murray Darling Basin Authority in-depth community profiles for the Northern Basin (2016) and the Southern Basin (2017) – as outlined below.

However, much has changed in Basin communities since then. Significantly, further water recovery from farmers has occurred, as well as floods and droughts, which all act to amplify the localised impacts of a future with less water.

MDBA Community Profiles

³⁶ <https://www.dcceew.gov.au/sites/default/files/documents/panel-report.pdf> [40]

³⁷ <https://www.dcceew.gov.au/sites/default/files/documents/panel-report.pdf> [70]

Overview

There are a number of findings from this analysis of the case study communities:

- These communities have seen a significant removal of water from the community, ranging from – 25% to -66%.
- There is a close alignment between the percentage of water removed, and the reduction in irrigated area.
- There were significant declines in agricultural employment over this period, ranging from -10% to -66%.

Southern Basin

The MDBA published Community Profiles in 2018, to understand the changes in Basin communities from 2001 to 2016.³⁸ The profiles look at 40 irrigation-dependent communities, 5 communities with little or no irrigated agriculture, and the centres of Deniliquin and Shepparton-Mooroopna.

These profiles are largely based on information collected through the Australian Bureau of Statistics (ABS) across the 2001, 2006, 2011 and 2016 census. Information covers changes in the total population of the communities and main towns or urban centres, the workforce and economic structure, and indicators of social condition.³⁹

Key overall findings (across the period 2001 to 2016) include:

- the average change in community population was a decrease of 8.7%
- the average change in total employment across the 40 irrigation- dependent communities was a decrease of 24.1%.

The full profiles can be found online, with a snapshot of findings below.⁴⁰

³⁸ [Southern Basin community profiles | Murray-Darling Basin Authority](#)

³⁹ [community-profiles-guide-may-20180.pdf](#)

⁴⁰ [Southern Basin community profiles | Murray-Darling Basin Authority](#)

Table 1: Data from MDBA Southern Basin Community Profiles (2001 to 2016), select case study communities

Community	Water recovery (GL) 2001-2016	Water recovery (% of available water) 2001-2016	Area Population (2001)	Area Population (2016)	% Change Area Population	Total area workforce (2001)	Total area workforce (2016)	Change in Total area workforce	Ag workforce % Change (2001 - 2016)	Ag workforce - FTE Loss (2001 - 2016)	Economic Structure % Ag (2001)	Economic Structure % Ag (2016)
Benerembah	13	6.30%	516	493	-4.50%	375	336	10.40%	-21.50%	52	64.00%	56.00%
Berri	9.6	23.80%	7739	7032	-9.10%	2828	2003	29.20%	-54.80%	399	26.00%	16.00%
Berrigan-Finley	31.7	5.60%	7116	5665	-20.40%	2626	1579	39.90%	-40.40%	396	37.00%	37.00%
Cobram	57.5	20.60%	15794	16948	7.30%	5547	4946	10.80%	-32.00%	616	35.00%	26.00%
Coleambally	9.9	3.60%	1226	1192	-5.80%	514	406	21.00%	-23.20%	64	54.00%	53.00%
Hillston	30.2	28.70%	1633	1298	-20.50%	678	410	39.50%	-41.50%	160	57.00%	55.00%
Hay	47.2	20.00%	4538	3986	-12.20%	1624	1221	24.80%	-41.90%	313	46.00%	36.00%
Lower Lakes	3.9	10.40%	3271	3594	9.90%	1123	839	25.30%	-38.80%	175	40.00%	33.00%
Loxton	10.5	16.90%	4724	5115	8.30%	1823	1642	9.90%	-47.20%	363	42.00%	25.00%
Mildura	10.8	16.90%	12600	16880	34.00%	4403	5443	23.60%	-26.60%	261	22.00%	13.00%
Murray Bridge	3.9	14.70%	14676	18608	25.80%	4467	5620	25.80%	-24.30%	198	18.00%	18.00%
Renmark	20.5	17.90%	9484	9069	-4.40%	3263	2779	14.80%	-42.70%	555	40.00%	27.00%
Wakool	88	34.50%	1569	854	-45.60%	537	249	53.70%	-61.50%	158	48.00%	40.00%
Wentworth	3.9	11.00%	1728	1474	-14.70%	557	383	31.20%	-30.20%	71	42.00%	43.00%

Northern Basin

The MDBA's Northern Basin Community Reports (2019) provide an overview of the social and economic conditions in 21 communities in the Northern Basin.⁴¹ These were published in 2019, based primarily on the period of 2001 – 2011. It is important to note that since this time, further water recovery has occurred, and further flow-on socio-economic impacts expected.

Table 2: Selection of irrigation communities from the MDBA Northern Basin Community Reports

Community	Water recovery (% of available water recovered) 2001-2016	% Change Area Population (2001-2011)	% Change in total jobs (excl seasonal)	Irrigated Area (min)	Irrigated Area (max)
Bourke	17%	-20%	-17%	0	15307
Collarenebri	66%	-26%	-37%	0	17100
Dirranbandi	20%	-14%	-23%	0	30900
Goondiwindi	0%	5%	7%	5800	60500
Moree	8%	-17%	-13%	6753	64062
Mungindi	5%	-17%	-13%	560	24650
Narrabri	0%	-6%	-7%	3900	14500
Narromine	20%	-13%	19%	2200	14000
St George	7%	-7%	-19%	3300	29300
Trangie	20%	-20%	-22%	100	9300
Warren	30%	-9%	-20%	300	32200
Walgett	0%	-13%	-3%	0	5000
Wee Waa	2%	-4%	-13%	7900	38800

Key overall findings (across the period 2001 to 2016) include:

- Communities were exposed to water recovery differently, with some communities losing 66% of irrigation water, and others not being directly impacted.
- Communities experiences differ, however, there is a strong correlation between water recovery and changes to population and jobs.

⁴¹ [Northern Basin review – social and economic condition reports | Murray–Darling Basin Authority](#)

This data shows the socio-economic impacts which have occurred at a local community level. This is the type of data which is not reflected in the Basin Plan Evaluation, which is done at a Basin-scale overall, smoothing over these localised impacts.

One of the strengths of the above analysis, is the process, which was undertaken working with communities to understand impacts. This process is just as valuable as the data as the end-product, as it gave communities a chance to feel heard, report their local experiences and observations, and to see genuine interest in authorities in understanding these impacts.

For the Basin Plan Review, it is ultimately recommended that this process be repeated with communities. The above data (as collected by the MDBA) is now over a decade old (in some case 15 years). Updates are required to see more recent impacts over this period – noting (i) further water recovery has occurred since this time, (ii) to identify the lag impacts, given many impacts take time to occur after the removal of water, and (iii) to replicate this process to see greater trends over time.

NIC has undertaken a preliminary extension of these community snapshots.

NIC extension of community snapshots

Socio-economic impacts Basin Plan

Our method

The Murray Darling Basin Authority developed in-depth community profiles for the Northern Basin (2016) and the Southern Basin (2017). However, much has changed in Basin communities since then. We sought to update those for four communities.

1. Select four case study communities
2. Identify water recovery volumes (as of 2016/17 due to data limitations)
3. Identify up to date socio-economic data where available (typically based on 2021 census)
4. See for yourself

→

National Irrigators' Council @nat_irrigators

Note 1: Data sourced from MDBA community profiles (2016/17) and census data (2021), as available.

Note 2: For most of these towns, further water recovery has since occurred. There is also often a lag-time for impacts of water recovery to occur. These figures are therefore likely an under-estimation.

Note 3: There are limitations in available data, meaning each town may have separate data sources, methods and timeframes (they are not intended to be comparable, rather to show the extent of impacts in each town). Contact us for further information, and see the NIC website.

COLLARENEBRI (NSW)

SOCIO-ECONOMIC IMPACTS OF THE BASIN PLAN

WATER REMOVED



EMPLOYMENT



AGRICULTURAL EMPLOYMENT



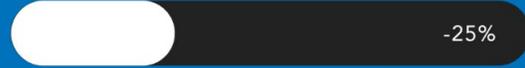
REDUCTION IN IRRIGATED AREA



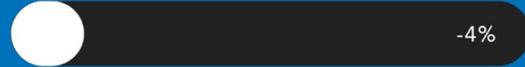
DIRRANBANDI (QLD)

SOCIO-ECONOMIC IMPACTS OF THE BASIN PLAN

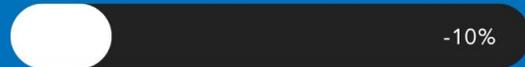
WATER REMOVED



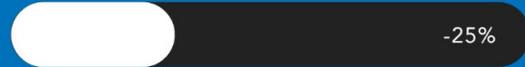
EMPLOYMENT



AGRICULTURAL EMPLOYMENT



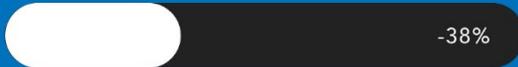
REDUCTION IN IRRIGATED AREA



WAKOOL (NSW)

SOCIO-ECONOMIC IMPACTS OF THE BASIN PLAN

WATER REMOVED



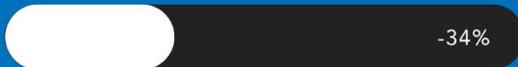
EMPLOYMENT



AGRICULTURAL EMPLOYMENT



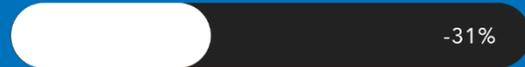
REDUCTION IN IRRIGATED AREA



BERRI (SA)

SOCIO-ECONOMIC IMPACTS OF THE BASIN PLAN

WATER REMOVED



EMPLOYMENT



AGRICULTURAL EMPLOYMENT



REDUCTION IN IRRIGATED AREA (PERMANENT PLANTINGS)

