MURRAY REGIONAL STRATEGY GROUP

Murray-Darling Basin Plan 2026 Review submission

1 May 2026

The Murray Regional Strategy Group was formed during the depths of the drought water crisis in 2018. A fully incorporated organisation, MRSG comprises representatives from organisations representing NSW Murray Valley water users on water issues. Our members include Murray Valley Private Diverters, Ricegrowers Association of Australia, West Corurgan Private Irrigation District, Murray Irrigation Limited, Southern Riverina Irrigators, and Speak-Up 4 Water campaign.

For more information: https://www.murrayregionalstrategygroup.com.au

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Executive Summary

In the regions where water recovery has been most concentrated, the Plan is failing to deliver its legislated socioeconomic outcome: productive and resilient water-dependent industries, and communities with confidence in their future.

The environment now controls 37% of the consumptive pool in the southern connected Basin, including water purchased towards the 450 GL target as of 25 February 2026.

The reduction in water availability and consequent upward pressure on allocation prices is undermining the viability and resilience of water-dependent industries. This has flow-on impacts to towns including jobs in food processing, transport and agribusiness services, and on community and irrigators' confidence in their future.

For example, large areas of rice production only occur 'when water allocation prices are below $120 – $150 per ML[1]. But water recovery is distorting the water market, driving up allocation prices. Delivering the Basin Plan 'in full' means farmers paying $170/ML[2] more on average every year than they would without water recovery. As rice becomes unaffordable to grow, Riverina towns are at high risk of an annual $400 million a year economic loss in jobs and services if SunRice offshores its local manufacturing.[3]

In the dairy industry, higher allocation prices similarly drive down milk production and farm expenditure, which reduces income for local suppliers of feed, fodder, fertiliser, fuel, mechanical repairs and other rural contractors.[4]

Water recovery also poses a significant sovereign food risk to sustaining production through climate and other shocks. The 189.6 GL purchased towards the 450 GL at 25 February 2026 has left fixed plantings below the Barmah Choke – nuts, grapes, citrus, stonefruit and olives – almost 500 ML[5] short of their water needs under the dry scenario currently forecast for 2026-27[6], even if fixed plantings got all the water allocated.

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[1] Frontier Economics & TC&A (2022), Social and economic impacts of Basin Plan water recovery in Victoria. https://www.water.vic.gov.au/__data/assets/pdf_file/0033/669426/social-and-economic-impacts-of-basin-plan-water-recovery-in-victoria.pdf, p31

[2] Impact of 300 GL buybacks in southern Basin plus 300 GL SDLAM shortfall, derived from DCCEEW (2025), Socio-economic considerations of an expanded purchase program arising from the 2024-25 Expression of Interest processes. https://www.dcceew.gov.au/sites/default/files/documents/socio-economic-considerations-2024-25-eoi.pdf

[3] The SunRice Group (2025), Submission to NSW parliamentary inquiry into the Impacts of the Water Amendment (Restoring Our Rivers) Act 2023 on NSW regional communities. https://www.parliament.nsw.gov.au/ladocs/submissions/90057/Submission%20101%20-%20SunRice%20Group.pdf

[4] Ricardo (2025), Impact of water buyback on the sMDB dairy industry. https://australiandairyfarmers.com.au/wp-content/uploads/2025/06/Ricardo-Impact-buyback-sMDB-dairy-industry-report.pdf, pp63-64

[5] Ruralco Water (2026) Below Choke Water Markets report – 2025-26 Insights and 2026-26 Outlook, https://www.youtube.com/watch?v=kNuwGQ51_jk

[6] GMW (2026), Current Outlook, 1 April 2026, https://nvrm.net.au/outlooks/current-outlook

The Covid pandemic and current geopolitical upheavals further underscore the fragility of international supply chains and the high risk of assuming imports can replace home-grown staples such as rice, dairy, fruit and vegetables.

The next phase of the Basin Plan to 2036 must drill into the past and emerging socioeconomic and water market impacts of water recovery on communities with a high dependence on irrigated agriculture, such as Berriquin, Finley, Deniliquin and Wakool.

While the Federal Government may have a policy commitment, neither the Water Act nor the Basin Plan mandates recovery of the full 450 GL; rather, the minister is only required 'to take all reasonable steps'.[7]

Continued water recovery is not justified on socioeconomic or environmental grounds. The MDBA's best available science shows little to no change in environmental outcomes even if another 750 GL[8] was to be removed from the consumptive pool.[9]

All water recovery must cease immediately, and all remaining funding shift to infrastructure upgrades and the complementary measures needed to deliver improved environmental outcomes. Measures include invasive species control, fish passage, habitat restoration, and targeted environmental watering within existing constraints using existing and new infrastructure where needed.

We agree with the MDBA in its discussion paper that some CLLMM outcomes may not be feasible, and as such, will need to change. We believe these include keeping the Murray Mouth open 95% of the time without dredging; and several undeliverable high-flow targets such as 80,000 GL/day across the South Australian border.

Despite hundreds of millions of dollars spent over the last 14 years, wholescale constraints relaxation across the southern Basin remains elusive. The 2012 Basin Plan modelling did not account for geographical and physical limitations on how water moves across the landscape in the Murray, Edward/Wakool and Goulburn river systems.

The assumed environmental outcomes of constraints relaxation will not be achieved even under the MDBA's proposed constraints pathway to 2036. These inundation assumptions will be even less realistic with reduced inflows due to climate change.

The lack of progress and outcomes chasing constraints relaxation compares with the success of The Living Murray program over the last 20 years, using water and works to

[7] Water Act 2007, Part 2, Division 4B, Section 85AC.

[8] 750GL = 450 GL plus anticipated 300 GL SDLAM shortfall.

[9] MDBA (2026), Initial SDL assessments, https://library-mdba.opendata.arcgis.com/apps/8ddd077f0c9647868cf5d2070829491a/explore

bring the landscape to life.[10] Its 'works+ water' combination has enabled delivery of an annual average 488 GL to icon sites in ways that maximise environmental benefits.

The success of this approach is mirrored in collaborative private programs such as the Murray Darling Wetlands Working Group.[11] Irrigation companies similarly are delivering tangible environmental outcomes with this approach, such as Murray Irrigation Ltd using its irrigation network to deliver more than 205 GL of environmental water since 2001 to rivers, ephemeral creeks and private wetlands within its footprint.[12]

With 1868.3 GL recovered under the Basin Plan in the southern connected Basin as of 31 December 2025[13], it is time to focus on infrastructure, complementary measures, local partnerships and investment in localised CLLMM measures to improve outcomes without constraints relaxation – an approach that climate change is likely to require.

New science must integrate private and public land and water management to optimise production and environmental outcomes. It is a perverse irony indeed that endangered Australasian now risk a substantial net loss in habitat as rice growing contracts in response to water scarcity and unaffordability driven by water recovery to improve environmental outcomes.

Two of the Basin Plan's four overarching objectives are to optimise the social, economic and environmental use of water in the national interest; and, to improve water security for all water users. One of its three outcomes is productive and resilient water-dependent industries, and communities with confidence in their long-term future.

The next phase of the Murray-Darling Basin Plan to 2036 must focus on delivering these legislated socioeconomic obligations, alongside a community-based partnership approach to healthy and resilient rivers and wetlands.

[10] MDBA (2026), 20 Years of the Living Murray, Program Overview, https://www.mdba.gov.au/sites/default/files/publications/20-years-of-the-living-murray-program-overview_0.pdf
20 Years of the Living Murray, Water delivery and infrastructure, https://www.mdba.gov.au/sites/default/files/publications/20-years-of-the-living-murray-water-delivery-and-infrastructure_0.pdf

[11] Murray Darling Wetlands Working Group (2026), Water for Wetlands projects, https://mdwwg.com.au/portfolio-2

[12] Murray Irrigation Ltd Project: Environmental Water, https://www.murrayirrigation.com.au/project/environmental-water

[13] DCCEEW (2026), Surface water recovery including the SDLAM, https://www.dcceew.gov.au/sites/default/files/documents/surface-water-recovery-including-the-sdlam.pdf

Recommendations

1. Federal and NSW water recovery through any means, including buybacks, rules changes, and reduced entitlement reliability, must cease immediately.

2. The Federal Government will immediately redirect all remaining water recovery funding to complementary measures, infrastructure and community support.

3. Assessment and monitoring of past and emerging local and regional socioeconomic and water market impacts must begin immediately, to inform the 2036 Review, using methodology and indicators developed in consultation with stakeholders.

4. The MDBA in its 2026 Basin Plan Review must recommend how the Basin Plan will achieve its legislated socioeconomic obligations[14] over the next decade to 2036.

5. The MDBA must present the local/regional socioeconomic and water market impacts of water recovery as part of the SDL Adjustment Mechanism reconciliation.

6. The Basin Plan must move away from a flow-driven reform to a policy model that integrates sovereign food resilience and targeted delivery of environmental outcomes.

7. The Basin Plan must reframe success in terms of site-specific environmental outcomes, for example, native fish recovery and habitat restoration, rather than water-driven solutions and undeliverable flow targets.

8. The Basin Plan must clarify the site-specific ecological outcomes being sought, such as successful waterbird/native fish breeding.

9. The Basin Plan must adopt a placed-based, local landholder and community partnership approach to identify and prioritise wetlands for watering, and work out ways to deliver site-specific outcomes that don't depend on overbank flooding.

10. Environmental outcomes on farm or on Crown Land managed by others must be included in the measures of success. This includes farmers nurturing wetlands, and rice growers providing vital habitat for the endangered Australasian Bittern.

11. The Basin Plan must explore innovative solutions to mitigate the impacts, and maximise the benefits, of very wet periods and periods of low-inflow and drought.

12. No change in the reliability of entitlements in the NSW and Victorian Murray due to any changes in Menindee operations.

13. The MDBA must release its draft 2026 Basin Plan Review Report for public review no later than 31 September 2026, to rebuild trust that stakeholders have had a genuine say without misinterpretation, misunderstanding or filtering for political palatability.

[14] Basin Plan 2012, Compilation No. 9, chapter 5, Section 5.02.

Introduction

A definition of insanity is to continue doing the same thing over and over, and expecting a different result.

The 2012 Murray-Darling Basin Plan modelling drove water recovery as the silver bullet answer to complex environmental challenges in highly modified landscapes and regulated river systems.

Some $13 billion and 2089 GL[15] later, native fish at a Basin scale are still declining, waterbirds are only holding their own, and water quality remains problematic. Yet in late 2023, the Federal Government legislated to keep on buying back water despite it being obvious that legal, operational and physical constraints rendered the original flows-based model obsolete.

The Murray Regional Strategy Group regards the 2026 Basin Plan Review as a long overdue opportunity for the MDBA and the Federal Government to stop the madness and immediately cease water recovery in all its forms, whether purchases, rules changes or reducing the reliability of entitlements.

The best available science says now is the time to pivot, to identify and prioritise site-specific ecological outcomes, and invest in the infrastructure, complementary measures and local partnerships needed to achieve them – an approach that climate change is likely to require with reduced inflows.

Environment: from broad ambition to realistic outcomes

It was true from the beginning of this reform the Basin's highly modified landscape and highly regulated river systems meant not all Basin Plan outcomes would be achievable, and not all environmental assets could be protected to the same extent.

Nonetheless, here we are, more than a decade later and much of $13 billion wasted pursuing water recovery targets rooted in broad ambition rather than practical delivery.

It is time to pivot our environmental science knowledge. The MDBA must undertake new modelling to identify which environmental values can be maintained, those that can transition to a new state, and those that cannot be sustained within the constraints of a highly modified landscape and regulated river system with limited water availability now and in a future with climate change.

[15] Basin Plan water recovery across the Basin before purchases for 450 GL, https://www.dcceew.gov.au/sites/default/files/documents/surface-water-recovery-including-the-sdlam.pdf

New, fit-for-purpose science and modelling

Water recovery in the 2012 Basin Plan was driven by modelled river reach flow targets. The river reach flow targets were considered a proxy for achieving improved outcomes for native fish, waterbirds, vegetation and water quality. It was assumed all legal, operational and physical constraints could be relaxed or removed to achieve the flows.

Notwithstanding some great localised environmental gains over the last 14 years using environmental water, the limits of this approach are now painfully evident.

We welcome the belated recognition that, for example:

- High flow rates – such as 80,000 ML/day over the SA Border for a month, three times a decade – are optimistic, and in many cases impractical.
- Overcoming constraints will be extremely challenging, as policy levers cannot overcome natural geological features of the Murray, Edward-Wakool and Goulburn river systems.
- Insufficiency of flow is not driving poor outcomes for native flora, fauna and water quality in almost all valleys.
- River reach flow targets in the Murray River will not achieve end-of-system targets such as keeping the Murray Mouth open 95% of the time without dredging, as the barrages have reduced the tidal prism by more than 85%[16] and Basin Plan modelling did not account for the Southern Ocean's counteracting force dumping sand into the mouth.[17]

Actions

The MDBA now needs to:

- Remove targets from the Basin Plan that the MDBA has identified as 'not feasible', including the Murray Mouth target and the rolling annual average 2000 GL over the barrages to discharge salt through the Murray Mouth and reduce south Coorong lagoon salinity.
- Abandon the river reach flow targets driving water recovery, as they are based on unrealistic assumptions about constraints relaxation, do not address the drivers of poor outcomes for native flora, fauna and water quality, and will be irrelevant in a hotter, drier climate future.

[16] Harvey (1996), The significance of coastal processes for management of the River Murray estuary, Australian Geographical Studies, Vol. 34: 1, https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-8470.1996.tb00102.x

[17] Thom, et al. (2019), The role of coastal processes in the management of the mouth of the River Murray, Australia: Present and future challenges. River Res Applic. 2019;1–12, https://doi.org/10.1002/rra.3551

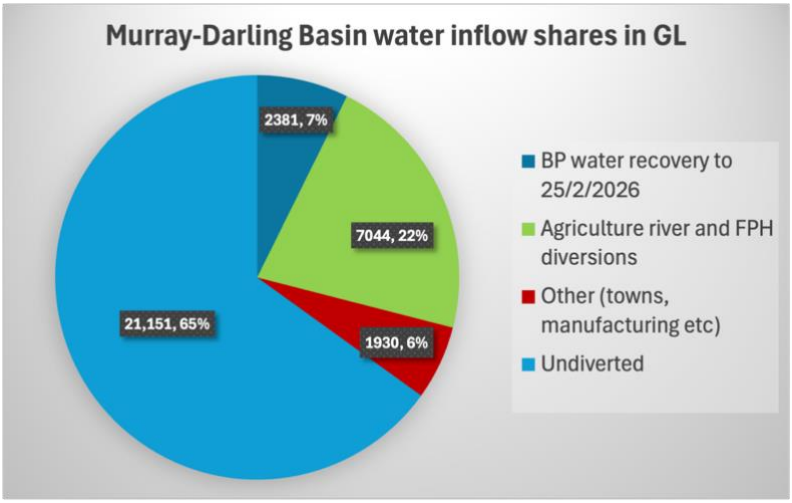
The MDBA must undertake new modelling and scientific inquiry to inform a fit-for-purpose, practical and actionable approach to improving environmental outcomes to 2036, including:

- Clarify the site-specific ecological outcomes sought for wetlands across the Basin, and prioritise the areas that can be watered with the environmental water available now.
- Identify how to achieve these outcomes through targeted, prioritised environmental watering and infrastructure in partnership with landholders, irrigation companies and community, within existing constraints.
- Reduce salinity and improve the condition of the south Coorong lagoon by restoring the Coorong's freshwater aquifer flows that are now being diverted from south-east South Australia into the Southern Ocean via drainage schemes.
- Accept the Lower Lakes may not be sustained as a freshwater system, even with the barrages, given warming, drying trends and rising sea levels.[18]
- Expand the science knowledge base to inform effective programs to control invasive species such as carp and pigs, restore habitat, build fish passage, and invest in modern water intakes to protect native fish.
- Science to inform how to integrate land and water management across public and private land to optimise environmental outcomes and production. For example, with 60% of endangered Australasian bitterns relying on rice paddies in the NSW Riverina for feeding and breeding habitat[19], scientists and water managers must work with farmers to support production systems that maximise bitterns' habitat options. The alternative is a substantial net reduction in habitat for an endangered waterbird as rice production continues to contract.

Sustainable Diversion Limits and environmental outcomes

Water recovery

The environment now receives 72% of annual average inflows into the Murray-Darling Basin as a whole. This water remains in rivers for the environment and includes Held Environmental Water (HEW), Planned Environmental Water (PEW), and conveyance/passing flow allowances.



[18] MDBA (2020), Independent Review of Lower Lakes Science Informing Water Management, https://www.mdba.gov.au/sites/default/files/publications/lowerlakessciencereview-finalreport-29apr2020-web.pdf

[19] Bitterns in Rice project, https://www.bitternsinrice.com.au

In the southern connected Basin, 4075 GL in different types of entitlements have been recovered from the consumptive pool for the environment through pre-Basin Plan and Basin Plan programs.

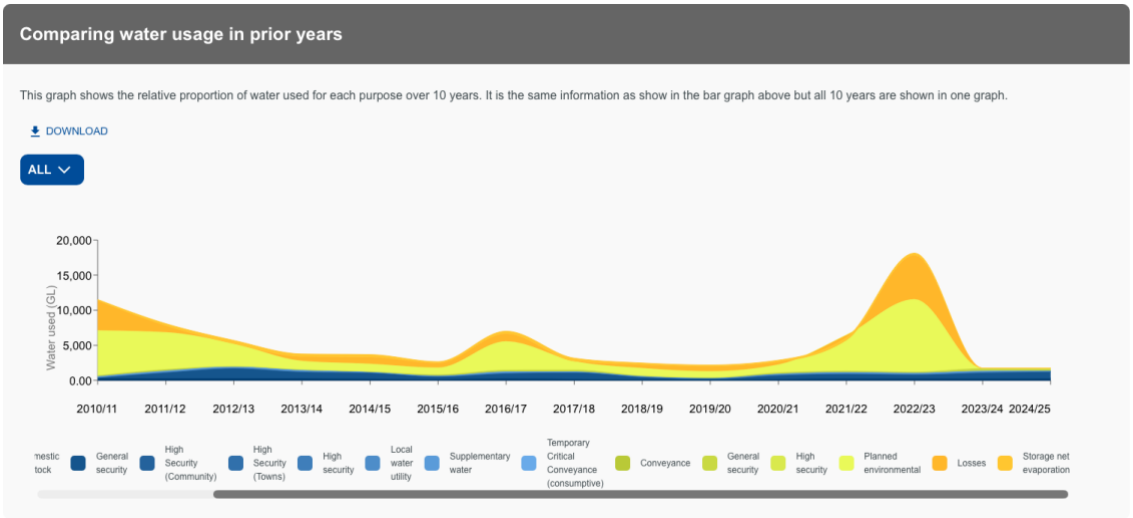
In terms of long-term annual average water yield on entitlements, Held Environmental Water (HEW) now accounts for 37% of the consumptive pool that supports irrigated agricultural production.

	Entitlements on issue (LTDLE ML)	Environmental entitlements (LTDLE ML)	Environment % of consumptive pool
Murrumbidgee	1,569,409	538,582	34%
NSW Murray	1,819,139	550,600	30%
Victorian Murray	1,381,627	541,900	39%
Goulburn	1,290,337	567,700	44%
SA Murray	539,206	181,900	34%
Southern Basin total**	6,821,613	2,529,609	37%

***Entitlements**: NSW general security, NSW high security, NSW supplementary, NSW Conveyance, Victorian high reliability, Victorian low reliability, SA Class 3.*
Volumes expressed as Long-Term Diversion Level Equivalent (LTDLE) – essentially long-term annual average yield.
Murrumbidgee excludes Lowbidgee entitlements, as these were not tradeable and rarely used in production.
Environmental entitlements include Basin Plan recovery, pre-Basin Plan recovery and 450 recovery to 25 February 2026.
***Southern connected Basin** total includes Lower Darling, Ovens, Broken, Campaspe, Loddon valleys*[20]

Water recovery from the consumptive pool plus PEW, conveyance and other allowances means the environment is the largest water user in the NSW Murray in any given year, including drought years such as 2019/20.

[20] Data sources: Basin Plan and 450 efficiency recovery: https://www.dcceew.gov.au/sites/default/files/documents/surface-water-recovery-including-the-sdlam.pdf
Entitlements on issue: https://www.mdba.gov.au/water-use/water-markets/water-markets-product-information
Pre BP recovery: https://www.mdba.gov.au/sites/default/files/publications/pre-2009-water-recovery-table-2017_0.pdf
450 GL purchases: https://www.dcceew.gov.au/water/policy/water-recovery/government-water-purchasing/voluntary-restoring-our-rivers
Over-recovery attributed to 450: https://www.mdba.gov.au/sites/default/files/publications/progress-on-water-recovery-summary-table-30-june-2025.pdf
LTDLE conversion factors: https://www.water.dcceew.nsw.gov.au/our-work/plans-and-strategies/water-resource-plans/ltdle-cap-factors#updated-2024-factors
Victoria and South Australia, derived from CEWH water holdings tables: https://www.dcceew.gov.au/cewh/manage-water/basin/water-holdings



NSW Murray water use in real time, broken down with consumptive in blue, undiverted (environment and losses) in green and orange.[21] Does not include Victorian or SA share of Murray flows.

Best available science does not support 'Basin Plan in Full'

The Federal Government has a political policy commitment to delivering the Basin Plan 'in full', being a 3130GL recovery target[22]. It defines 'in full' as recovering the full 450 GL plus any SDLAM 605 GL shortfall (anticipated up to 355GL).

However, the MDBA is not obliged to deliver on a political policy commitment – particularly when recovering the full 450 GL is not mandatory under the Water Act.[23]

The question in this Review is not whether water recovery targets set under unrealistic and impractical modelling in 2010 have been met, but the extent to which water recovery is delivering improved outcomes for waterbirds, native fish, water quality, native vegetation and other key indicators.

The initial SDL assessments represent the best available science.[24] They show further water recovery for the full 450 GL and/or the anticipated shortfall of up to 355 GL[25] in SDLAM environmental water offsets is not justified on environmental grounds.

The NSW/Vic Murray, Murrumbidgee and Goulburn Valley assessments show their SDLs likely reflect an environmentally sustainable level of take as the Water Act requires.

[21] WaterNSW insights page https://waterinsights.waternsw.com.au/11904-new-south-wales-murray-regulated-river/research
[22] Aspirational 3200 GL with 450 GL recovery reduced by 70GL to 3130 GL after 2016 nMDB review.
[23] Federal Water Minister must take 'reasonable steps', Water Act 2007, Part 2, Division 4B, Section 85AC.
[24] MDBA (2026) Initial SDL Assessments, https://library-mdba.opendata.arcgis.com/apps/8ddd077f0c9647868cf5d2070829491a/explore
[25] MDBA (2025), 2025 SDLAM assurance report, released 4 December 2025, https://www.mdba.gov.au/sites/default/files/publications/SDLAM-Assurance-Report-Dec2025.pdf

New South Wales Murray (SS14)

INITIAL SDL ASSESSMENT RESULT

It is **likely** that the SDL reflects an environmentally sustainable level of take for this unit.

The Authority's initial assessment has also **identified a risk** that environmental outcomes for *flows and connectivity*, *ecosystem functions* and *native fish* are not being met for this Unit. Pattern of flow is the **likely** leading driver of risk due to the inability to deliver water to the floodplains.

The Authority is **proposing further work with the New South Wales government** through 2026 to consider the most appropriate response to address this risk. This will include an examination of flow drivers and constraints to flow to inform the Authority's recommendation on response.

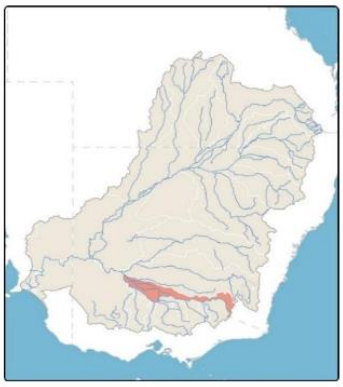


Figure 1: NSW Murray SDL Resource Unit

Initial SDL Assessment, NSW Murray (SS14), p1, https://library-mdba.opendata.arcgis.com/apps/8ddd077f0c9647868cf5d2070829491a/explore

Crucially the assessments show that volume of water is not a factor in the likelihood of supporting environment outcomes, with no difference in outcomes between the amount of water recovered at 30 June 2024 before the 450 GL buybacks began (LoE1), and the recovery of the full 450 GL plus an assumed 300 GL shortfall in the SDLAM 605 GL environmental water offset projects (LoE2).

Theme	The *likelihood* that the pattern and volume of flow will support the objectives for each ecological 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				●			●○○
	LoE 2				●			●○○

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New South Wales Murray (SS14)

Initial SDL Assessment, NSW Murray (SS14), p3, https://library-mdba.opendata.arcgis.com/apps/8ddd077f0c9647868cf5d2070829491a/explore

To the extent that environmental outcomes such as connectivity, ecosystem functions and native fish may still be at risk in the NSW/Victorian Murray, Murrumbidgee and Goulburn, the problem is non-flow drivers such as lack of fish passage, patterns of flow and the inability to deliver water to floodplains.[26]

The initial SDL assessment for the South Australian Murray and Coorong, Lower Lakes and Murray Mouth (CLLMM) says further work is required to assess whether the SDL reflects an environmentally sustainable level of take.

It says the pattern of flow, including the inability to deliver water to floodplains and wetlands, is likely the leading driver of poor environmental outcomes, although sufficiency of flow may also still be a potential factor. However, there is still little to no difference in outcomes between the two scenarios of water recovered on 30 June 2024, or full recovery of the 450 GL plus an assumed 300GL SDLAM shortfall.

Table 1a. SA River Murray Channel and Floodplain

Theme	The *likelihood* that the pattern and volume of flow will support the objectives for each ecological 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				●			●●○
	LoE 2					●		●●●

Table 1b. Coorong, Lower Lakes and Murray Mouth

Theme	The *likelihood* that the pattern and volume of flow will support the objectives for each ecological 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			●				●○○
	LoE 2			●				●○○

Initial SDL Assessment, SA Murray (SS11), p4, https://library-mdba.opendata.arcgis.com/apps/8ddd077f0c9647868cf5d2070829491a/explore

[26] MDBA (2026), 2026 Murray-Darling Basin Plan Review – Discussion Paper, https://www.mdba.gov.au/sites/default/files/publications/2026-murray-darling-basin-plan-review-discussion-paper.pdf, p28.

To the extent there is a difference, the MDBA should not recommend further water recovery from upstream valleys but monitor how the volume of water recovered so far towards 450 GL improves the situation in the SA Murray.

It is worth noting that if insufficiency of flow is a potential factor affecting improved outcomes in the SA Murray and CLLMM, the Federal Government has already had the opportunity to address this by targeting the South Australian Murray for its buybacks towards the 450 GL.

Instead, 1412 GL, or 74%, of the 189.6 GL water purchased or contracted to 25 February 2026 has been recovered in the Murrumbidgee, the NSW/Vic Murray above the Barmah Choke and Victoria's Goulburn Valley. All three catchments have legal, physical and operational constraints severely limiting the capacity to transfer the recovered water into the lower Murray to cross the South Australian border. Only 4.4 GL, or 2.3% of the total, has been purchased in the South Australian Murray.[27]

SDLAM reconciliation: no change in SDLs

The Sustainable Diversion Limits Adjustment Mechanism (SDLAM) allowed the southern Basin's SDLs to be raised by 605 GL in 2018, on the expectation that a package of projects and measures equating to 605 GL of environmental water offsets would be delivered. In the MDBA's last assurance report, a shortfall of up to 355 GL is expected.[28]

As we understand the process, the MDBA will reconcile the SDLAM by 31 December 2026 and present the results to the federal Water Minister along with draft legislation to adjust the SDLs. However, the Minister decides whether or not to reduce the SDLs to reflect the SDLAM shortfall and recovery of water towards the 450 GL target.

Staff on the MDBA's 9 February 2026 webinar on the Review discussion paper said changing the SDLS, 'is the last possible lever to look at', because 'environment watering is working when we can get water onto wetlands and floodplains, so if we can't [get water onto floodplains and wetlands], then we can't get better outcomes.'

In other words, the problem is not the volume of water available, as demonstrated in the initial SDL assessments, but constraints on delivering environmental water.

While the Water Act 2007 and the Basin Plan require the SDLAM reconciliation to be done by 31 December 2026, the MDBA has the option to recommend no change in the current SDLs.

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[27] DCCEEW (2026), Purchasing progress towards the 450 GL in February 2026, https://www.dcceew.gov.au/water/policy/water-recovery/government-water-purchasing/voluntary-restoring-our-rivers

[28] MDBA (2025), 2025 SDLAM assurance report, released 4 December 2025, https://www.mdba.gov.au/sites/default/files/publications/SDLAM-Assurance-Report-Dec2025.pdf

SDLAM reconciliation, socioeconomic impact and compliance

The Ecologically Sustainable Level of Take (ESLT) in the Basin Plan is also designed to protect the productive base. The ESLT cannot be defined solely in terms of diversion limits, when further water recovery will affect the productive base for no environmental gain. In 2026, all the evidence points to lower SDLs not being the best levers to deliver better outcomes for native fish, waterbirds, native vegetation, water quality, ecosystem functions, floodplains and wetlands.

ABARES' modelling to inform the purchase of 300 GL in the southern Basin towards the 450 GL target[29], indicates profound socioeconomic impacts if SDLs are reduced to force recovery of another 300 GL to make up the SDLAM shortfall.

At a simplistic, linear level, recovering another 300 GL to make up the SDLAM shortfall would double the estimated impacts of purchasing 300 GL of the 450 GL – i.e., a 10.4% increase in annual average water allocation prices doubling to 20.8%.

In dollars, that's annual average allocation prices being $170/ML higher than without water recovery ($49/ML with 300 GL for SDLAM shortfall plus $49/ML for 300 GL towards 450 GL target[30] plus $72/ML for water recovery to 2022 ($72/ML)[31].

When large areas of rice production only occur 'when water allocation prices are below $120 – $150 per ML[32],' it is clear rice production will sharply contract if farmers are paying $170/ML more on average every year than they would without water recovery.

Assuming the same linear relation, the combined impact removing another 600 GL of water from the consumptive pool reduces the gross values of different commodities by:

- -24% rice
- -9.2% cotton
- -7.2 % other cropping
- -6.8% hay (with flow-on impacts on livestock industries, including dairy)
- -4.2% and -4% other livestock and dairy respectively.[33]

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[29] DCCEEW (2025), Socio-economic considerations of an expanded purchase program arising from the 2024-25 Expression of Interest processes, DCCEEW. https://www.dcceew.gov.au/sites/default/files/documents/socio-economic-considerations-2024-25-eoi.pdf

[30] DCCEEW (2025), *Ibid*.

[31] ABARES (2020), Analysis of Economic effects of water recovery in the Murray–Darling Basin https://daff.ent.sirsidynix.net.au/client/en_AU/search/asset/1030661/0

[32] Frontier Economics & TC&A (2022) Social and economic impacts of Basin Plan water recovery in Victoria. https://www.water.vic.gov.au/__data/assets/pdf_file/0033/669426/social-and-economic-impacts-of-basin-plan-water-recovery-in-victoria.pdf, p31

[33] Extrapolated from DCCEEW (2025), Socio-economic considerations of an expanded purchase program arising from the 2024-25 Expression of Interest processes, DCCEEW. https://www.dcceew.gov.au/sites/default/files/documents/socio-economic-considerations-2024-25-eoi.pdf

In dollar terms, it's a $42 million a year reduction in the Gross Value of Irrigated Agricultural Production in the NSW Murray alone.

The ABARES model underestimates impacts at the farmgate because real-world impacts are not linear annual averages, but exponential. Annual average increases in allocation prices mask the water market impacts of dry and drought years, and impacts of industries hitting critical tipping points beyond which downstream processing and support industries lose critical mass and are no longer viable.

The SDLs do not need to be changed to enforce compliance. The annual actual take since the SDLs came into effect in 2019 is consistently well below the Sustainable Diversion Limits in almost all valleys. Diversions at a Basin scale have accumulated 7794 GL in credit below the annual permitted take. The NSW Murray alone has an accumulated 1394.69 GL in credit in its SDL compliance account. [34]

So the state of play in 2026 is that the current SDLs likely represent an ecologically sustainable level of take, but chronic underuse of the water farmers are entitled to use annually is compounding the productive opportunity cost of the consumptive pool being reduced by 37% in the southern connected Basin.

The question is how the Basin Plan can better support the productive base over the next 10 years to optimise socioeconomic outcomes with the water available and support productive and resilient water-dependent industries.

Actions:

1. The MDBA must be explicit in its advice to the Water Minister that its own best available science shows little to no difference in environmental outcomes between the volume recovered at 30 June 2024 compared with an additional 450 GL plus 300 GL SDLAM shortfall.
2. The MDBA's advice to the minister must include an assessment of the industry and local socioeconomic impacts of recovering the full 450 GL and 300 GL SDLAM shortfall.
3. The MDBA must advise on priority actions through to 2036 that improve floodplain and wetland health, and native fish decline, using the currently held portfolio of environmental water. Actions include:
    - Measures to improve connectivity to floodplains through partnerships with landholders and irrigation companies to deliver targeted environmental water to priority areas within existing constraints, including private wetlands and creek systems.

[34] MDBA (2025), 2023-24 Sustainable Diversion Limit Accounts, https://www.mdba.gov.au/sites/default/files/publications/2023-2024-sdl-accounts-registers-of-take-report.pdf

- Infrastructure to assist targeted environmental water delivery to priority areas within existing constraints.
- Measures to address key degradation drivers affecting waterbirds, native fish, native vegetation and water quality, including:
    - Invasive land and water species control, particularly European carp, feral pigs, foxes, cats and goats.
    - Fish passage through weirs.
    - Integrated catchment management, including improving environmental outcomes on farms or Crown land managed by others, such as rice paddies providing vital habitat for waterbirds like the endangered Australasian bittern.
- Improved management and delivery of environmental water.
- Riparian and in-river habitat restoration.

Water quality

The old mid-20th Century waste management mantra that "dilution is the solution to pollution" discharged into waterways, is widely and rightly derided as outdated and incorrect. Recovering more water from farmers to try to dilute our way out of water quality problems is not the answer in the Murray-Darling Basin either.

Improved water quality requires a suite of actions to prevent the causes of the problem. Many effective actions have already been undertaken. For example, NSW farmers are required in their works approvals to retain all runoff from irrigated fields on their properties, to prevent nutrients and chemicals entering waterways. Salt interception schemes in Victoria and NSW have substantially reduced salinity in the southern Basin.

The challenge is to address diffuse pollution sources, such as the impact of European carp and the loss of critical riparian and wetland native vegetation that filters and improves water quality. Water quality is further compromised by mass fish deaths in large part due to the lack of passages through regulating infrastructure for fish to escape poor water quality.

The Basin Plan Review is also an opportunity to review the practical usefulness of legacy water quality rules such as the triggers for the 3000ML/day Additional Dilution Flow (ADF) to South Australia; NSW's 1500ML/day share comes directly out of its water resources available for general security allocation to grow food and fibre.

This additional flow to South Australia, ostensibly to mitigate the impacts of surface water salinity, was agreed in 1987 as part of the MDBC Salinity and Drainage Strategy. But in this political deal, water releases are not triggered by high salinity measured at

Morgan, but when storage volumes in the Menindee Lakes, Hume and Dartmouth reservoirs rise above set monthly levels.[35]

Salinity interception programs initiated in NSW, Victoria and South Australia in the 1980s and improved on-farm irrigation practices have ensured that salinity at Morgan is meeting its modelled average daily target of less than 800 EC at least 95% of the time.[36]

If the ADF is genuinely intended to improve water quality in the SA Murray, then it should be linked to a salinity trigger at Morgan rather than just volumes in storage. The rules should be reviewed, including options such as additional dilution flows changing to monthly totals rather than daily totals. This would allow greater flexibility that could be 'translated into maximising both salinity and ecological outcomes'.[37]

Actions

We support the MDBA's finding that 'the Basin Plan on its own cannot prevent and manage water quality problems'.[38] Improving water quality will require a suite of actions over the next decade in partnership with landholders and communities, including:

- Prioritise the building of fish passages, starting with Menindee and Balranald. This will be critical for ensuring native fish can seek refuge during periods of low water quality.
- Ramp up programs to control carp and other invasive species; don't just keep waiting for the carp virus. Carp are known to reduce water quality, damage riverbanks, and contribute to algal blooms.[39]
- Prioritised, targeted environmental watering of wetlands, local creeks and private schemes in partnership with landholders and irrigation companies to, among outcomes, reduce build-up of organic matter.
- Improve water quality in the south Coorong lagoon and Lake Albert by restoring freshwater flows from the south-east South Australian aquifers that are currently being diverted through drains to the Southern Ocean; and investigate options for a one-way pipe/valve system to allow sea water to enter the southern to maintain flushing and reduce hyper saline conditions.

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[35] NSW Murray and Lower Darling Water Sharing Plan, Appendix 3, https://classic.austlii.edu.au/au/legis/nsw/consol_reg/wspftnswmaldrrws2016964/sch983.html#:~:text=Additional%20Dilution%20Flow%20to%20South,2%2C000%2C000

[36] MDBA (2024), Basin Salinity Management 2030 Summary report 2023-24. https://www.mdba.gov.au/sites/default/files/publications/basin-salinity-management-2030-strategy-2023-24-summary-report.pdf

[37] NSW Murray and Lower Darling Water Sharing Plan, Appendix 3, https://classic.austlii.edu.au/au/legis/nsw/consol_reg/wspftnswmaldrrws2016964/sch983.html#:~:text=Additional%20Dilution%20Flow%20to%20South,2%2C000%2C000

[38] MDBA (2026), 2026 Murray-Darling Basin Plan Review – Discussion Paper, https://www.mdba.gov.au/sites/default/files/publications/2026-murray-darling-basin-plan-review-discussion-paper.pdf, p64.

[39] CEWH (2026), Carp and water for the environment - DCCEEW

- Address cold water pollution and low-oxygen dam releases.
- Improve riparian and instream native habitat through collaboration with local landholders, noting that the 2012 Basin Plan's high-flow targets for the mid Murray/Edward-Wakool system would damage riparian habitat.
- Link South Australia's Additional Dilution Flow to salinity trigger levels at Morgan, and change flows to monthly rather than daily totals.
- Recognising the MDBA has now acknowledged the limits of the Basin Plan in influencing water quality outcomes, retain section 9.11 of the current Plan, which specifies that water quality targets are not mandatory.

Constraints

Constraints relaxation is identified in the discussion paper as key to improving floodplain and wetland health. However, the paper recognises what stakeholders such as ourselves have been saying for years: many of the 2012 Basin Plan modelling assumptions about high flow rates and the extent to which constraints could be relaxed were 'optimistic' and that high-flow rates were not practical in many cases.[40]

The long-running saga of negotiating with 108 landholders to increase flood easements from Hume to Yarrawonga in the 2000s[41] is instructive on the complexity of attempting the same with ~6000-plus landholders in southern NSW and northern Victoria.

The 2026 initial SDL assessments take a more realistic position, acknowledging that volume of flow alone is not enough to improve outcomes for native fish, vegetation, waterbirds and water quality.

We also now have the best available science on climate change suggesting the southern Basin may be drier and/or hotter, with less water available. In this scenario, constraints relaxation ultimately may not deliver the desired floodplain and wetland outcomes anyway, simply because there's not enough water to create overbank flows outside naturally occurring floods.

So, we could keep going as we have been going the last 14 years as the discussion paper suggests. That is, spending hundreds of millions of dollars more and much time trying to solve complex interjurisdictional issues before the MDBA even starts consultation with communities, landholders and First Nations to gradually test higher

[40] MDBA (2026), 2026 Murray-Darling Basin Plan Review – Discussion Paper, https://www.mdba.gov.au/sites/default/files/publications/2026-murray-darling-basin-plan-review-discussion-paper.pdf, p27.
[41] MDBA (2017), Lessons from easement programs: MDBA's experience with the Hume-Yarrawonga Easement Program, https://www.mdba.gov.au/sites/default/files/publications/mdba-lessons-from-hume-yarrawonga-easement-program.pdf

flows in priority areas. At best, 'progress' will continue to be extremely slow along this pathway set out in the MDBA 2024 Constraints Relaxation Implementation Roadmap.[42]

Progress will be even slower now thanks to the NSW Government breaking the community trust the MDBA seeks to rebuild through the roadmap. Recently passed NSW legislation allows, among other things, the right to release up to 50,000 ML/day from Yarrawonga without compensating downstream landholders in the NSW Murray-Edward River-Wakool inland delta for property damage, lost crops and livestock[43], or tourism operators when Murray River beaches are drowned at just 20,000 ML/day. The MDBA constraints roadmap is now suggesting 35,000 ML/day from Yarrawonga, much higher than the current regulated operational level of 15,000 ML/day.

The other concern is that the MDBA envisages constraints relaxation will not just enable water delivery to floodplains and wetlands in the inland delta of the Barmah-Edward River-Kolety system in the NSW Murray, but also increase the capacity to deliver water downstream to shore up water security for consumptive users.[44]

If constraints are relaxed to allow overbank flooding, water losses will be in the order of 36-41% and negate any increase in flow volumes to South Australia. Nonetheless, if the overbank flooding is for environmental purposes, then the losses will be deducted from the environmental water accounts.

If overbank flooding is also used to deliver more water for operational and consumptive purposes downstream, then the losses will be deducted from the consumptive pool to the detriment of both irrigated agriculture and the environment. A smaller consumptive pool means lower General Security entitlement allocations to support rice, dairy and other commodities in the NSW Murray valley. It also means lower allocations to the General Security entitlements owned by the environment.

Reduced allocations and entitlement reliability would be an unacceptable outcome from constraints relaxation, when the amount of water available for growing food and fibre in the southern Basin has already been reduced by 37% due to environmental water recovery.

In the 2012 Basin plan modelling, success was defined by the number of hectares that could be inundated by relaxing constraints to allow restoration of some small overbank

[42] MDBA (2024), Constraints Relaxation Implementation Roadmap, https://www.mdba.gov.au/publications-and-data/publications/constraints-relaxation-implementation-roadmap

[43] NSW Water Management Act 2000, Section 398 Exclusion of Crown Liability, amended to come into effect 1 January 2026, https://classic.austlii.edu.au/au/legis/nsw/consol_act/wma2000166/

[44] MDBA (2026), 2026 Murray-Darling Basin Plan Review – Discussion Paper, https://www.mdba.gov.au/sites/default/files/publications/2026-murray-darling-basin-plan-review-discussion-paper.pdf, p56.

flows. The potential for these small overbank flows may not exist in 2036 due to climate change likely making the southern Basin hotter and/or drier.

The small overbank flows envisaged through constraint relaxation would also not go far enough to reach the mid and upper floodplains and wetlands under the climate of the past 120 years, much less in a hotter and drier climate-change future. Further, the 2012 Basin Plan modelling did not account for geographical and physical limitations on how water moves across the landscape in the Murray, Edward/Wakool and Goulburn river systems.

So, despite hundreds of millions of dollars spent over the last 14 years, constraints relaxation to enable deliberate, small overbank inundation remains elusive.

The lack of progress and outcomes chasing constraints relaxation compares with the success of The Living Murray program over the last 20 years, using water and works to bring the landscape to life.[45] Its 'works+ water' combination has enabled delivery of an annual average 488 GL to icon sites in ways that maximise environmental benefits.

The success of this approach is mirrored in collaborative private programs such as the Murray Darling Wetlands Working Group.[46] Irrigation companies similarly are delivering tangible environmental outcomes with this approach, such as Murray Irrigation Ltd using its irrigation network to deliver more than 205 GL of environmental water since 2001 to rivers, ephemeral creeks and private wetlands within its footprint.[47]

Rather than persisting with a constraint relaxation policy solution that hasn't got us very far over 14 years, and may not deliver improved environmental outcomes anyway over the next decade and into a climate change future, the smart move is change the Basin Plan's success metric from hectares inundated to site- specific outcomes.

This means focusing on non-flow solutions and partnerships to ensure that we can improve environmental outcomes for floodplains and wetlands without constraints relaxation – an outcome that climate change is likely to require.

Actions

1. Change the Basin Plan's success metric from hectares inundated through constraints relaxation to site-specific ecological outcomes.

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[45] MDBA (2026), 20 Years of the Living Murray, Program Overview, https://www.mdba.gov.au/sites/default/files/publications/20-years-of-the-living-murray-program-overview_0.pdf
20 Years of the Living Murray, Water delivery and infrastructure, https://www.mdba.gov.au/sites/default/files/publications/20-years-of-the-living-murray-water-delivery-and-infrastructure_0.pdf

[46] Murray Darling Wetlands Working Group (2026), Water for Wetlands projects, https://mdwwg.com.au/portfolio-2

[47] Murray Irrigation Ltd Project: Environmental Water, https://www.murrayirrigation.com.au/project/environmental-water

2. Work with communities, landholders and irrigation companies on solutions for prioritised, targeted environmental watering of floodplains within existing constraints and investing in infrastructure such as regulators where needed.
3. Redirect funding for constraints relaxation and water recovery to working with communities, landholders and irrigation companies to deliver a mosaic of environmental outcomes across public and private land.

Socioeconomic impacts: the elephant in the room

Two of the 2012 Basin Plan's four overarching objectives are to optimise the social, economic and environmental use of water in the national interest; and, to improve water security for all water users. One of its three outcomes is productive and resilient water-dependent industries, and communities with confidence in their future.[48]

Ample red flags are raised in socioeconomic reports commissioned by the MDBA and other studies, that the Basin Plan's socioeconomic objectives and outcome are not being met in the regions ABARES has identified as the most vulnerable and least adaptive[49] to water recovery for the environment.

Unsurprisingly, these vulnerable regions are where water recovery has been and continues to be targeted simply because irrigated agriculture and therefore water entitlements for potential recovery, are concentrated in these regions. Socioeconomic impacts are therefore disproportionately concentrated in these regions, as the MDBA's Basin Plan 2026 Discussion Paper recognises:

> *... water buybacks have added to long-standing pressures on rural communities, including broader structural changes in agriculture. We have heard that in some towns, such as Dirranbandi, Collarenebri, Wakool and Cohuna, the reduction in water available for irrigation has exacerbated these broader pressures, leading to effects such as business closures, declining school enrolments and challenges to community wellbeing. Together, buybacks and structural changes have reshaped the social and economic fabric of these communities.*[50]

[48] Basin Plan 2012, Compilation No. 9, chapter 5, Section 5.02.
[49] ABARES (2024), Community vulnerability and adaptive capacity in the Murray Darling Basin, https://www.agriculture.gov.au/abares/research-topics/water/community-vulnerability-adaptive-capacity-murray-darling-basin
[50] MDBA (2026), 2026 Murray-Darling Basin Plan Review – Discussion Paper, https://www.mdba.gov.au/sites/default/files/publications/2026-murray-darling-basin-plan-review-discussion-paper.pdf, p4

The Murray Regional Strategy Group represents communities and irrigated agriculture in ABARES' vulnerable LGA regions including Murray River, Edward River, Berrigan and Federation.

We would have expected, given the Plan's socioeconomic objectives and outcomes, the many socioeconomic red flags, and the MDBA's statement above, that socioeconomic impact would be core among the issues explored in a discussion paper whose stated purpose is 'informing stakeholders … and shaping recommendations' to Government'[51].

Instead, all the discussion paper says is the Plan supports its vision of productive water-based industries and communities with confidence in their future, by seeking outcomes in water market efficiency 'to enable water to move to its most productive use'[52].

That's it.

There's no discussion of the regional and local socioeconomic impact of water recovery before the Commonwealth embarked on its 450 GL purchase program. There is no discussion of the socioeconomic or water market impact of recovering another 450 GL plus the anticipated 300 GL SDLAM shortfall. There is no discussion of how the next phase of the Basin Plan to 2036 can support Basin communities, beyond a vague reference to the recreational and tourism benefits of healthier environment.

Ongoing monitoring of socioeconomic conditions and filling the gaps in regional and local impact analysis is not even among the knowledge priorities in the Science and Knowledge section of the discussion paper.[53] This is despite the MDBA's 2025 Review of the social and economic impacts of the Basin Plan spelling out the priorities for future social and economic monitoring,[54] and warning that its findings

> *only consider the estimated impact of water recovery between 2008 and 2022. Crucially, they should not be seen as an estimate of the potential impacts of additional water recovery as the relationships observed to date may not hold in the future.*[55]

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[51] MDBA (2026), 2026 Murray-Darling Basin Plan Review – Discussion Paper, https://www.mdba.gov.au/sites/default/files/publications/2026-murray-darling-basin-plan-review-discussion-paper.pdf, pix.
[52] MDBA (2026), 2026 Murray-Darling Basin Plan Review – Discussion Paper, https://www.mdba.gov.au/sites/default/files/publications/2026-murray-darling-basin-plan-review-discussion-paper.pdf, p2.
[53] MDBA (2026), 2026 Murray-Darling Basin Plan Review – Discussion Paper, https://www.mdba.gov.au/sites/default/files/publications/2026-murray-darling-basin-plan-review-discussion-paper.pdf, p81.
[54] MDBA (2025) Review of the social and economic impacts of the Basin Plan, July 2025 https://www.mdba.gov.au/sites/default/files/publications/2025-review-social-economic-impacts-basin-plan.pdf, p43.
[55] MDBA (2025) *Ibid*. pix.

But, as far as the discussion paper is concerned, there is no need for further socioeconomic impact assessment because the water market will solve all.

In fact, multiple studies indicate the water market itself is in many ways exacerbating the uneven distribution of the Basin Plan's socioeconomic impacts.[56] The water market cannot be relied on to deliver productive and resilient water-dependent industries when water recovery is driving up allocation prices for farmers trying to make a return from production. Rising costs of water are making rice, dairy and other water-dependent industries less resilient to climate and other production shocks.

The permanent reduction in the consumptive pool has also created an acute risk of water market failure for permanent plantings such as almonds, citrus and grapes during droughts. In a severe drought, there may not be enough in the pool to keep trees and vines alive even if growers can afford to pay.[57]

The other elephant in the room is the heightened regional flooding risk from managing environmental water through the Mid Murray reach during spring. High unregulated flows down Victorian tributaries such as the Ovens River combined with piggybacking environmental water releases from Hume Dam is a recipe for unmanageable flooding. Riparian landholders can lose livestock, crops and private infrastructure with no compensation, while towns and local government infrastructure is also damaged.

Gaslighting communities

It is notable the MDBA says its 2025 socioeconomic assessment review benefited from the literature review by Wheeler et al.[58] that rates the value of studies estimating the Basin Plan's social and economic values.

The Wheeler et al. review essentially comes to the self-serving conclusion that only academic economists can be trusted to undertake objective socioeconomic assessment. It deems the work of economic consultancy firms commissioned by government departments to be somewhat trustworthy, but intimates only if their findings align with those of select academic economists. Even when industry, community and local government use the same 'approved' consultants as departments, Wheeler *et al.* suggest the modelling and analysis is somehow now suspect.

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[56] For example, ABARES (2024), The impacts of further water recovery in the southern Murray-Darling Basin, https://daff.ent.sirsidynix.net.au/client/en_AU/search/asset/1035841/0, p9.
[57] Aither (2022), Water supply and demand in the southern Murray-Darling Basin (2022 update), https://www.waterregister.vic.gov.au/images/documents/Water-Supply-and-Demand-in-the-sMDB_2022-Update_Report.pdf, p3.
[58] Wheeler S, Xu Y, Zuo A, Haensch J and Seidl C (2023) Identifying the water-related economic values of the Murray-Darling Basin and rating the quality of water economic studies, https://www.mdba.gov.au/sites/default/files/publications/mdb-outlook-economic-literature-review2.pdf, accessed17 March 2026.

Conveniently, the studies deemed in the Wheeler *et al.* review to be the most trustworthy are those that conclude Basin Plan water reforms have had only minor impacts on aggregate regional economies compared with other drivers of change, such as commodity markets, access to skilled labour and agricultural technologies, input prices and climate variability. Where the evidence demonstrates that the Basin Plan has had a measurable impact on irrigated agricultural turnover in the southern Basin, it is dismissed as just one driver among many[59], so further investigation is unwarranted.

The result is that irrigation-dependent communities have been disenfranchised, and their concerns about local and regional impacts robbed of legitimacy in the eyes of political decision-makers who fall back on these 'headline' findings.

Minimising the Basin Plan's impacts on vulnerable communities is certainly the politically palatable message the Federal Government wants to hear as it continues its buybacks towards its 450 GL target. The MDBA articulating the red flags evident in its own and other reports would put it on a collision course with a Government that does not want to accept this reform has significant and substantial past and emerging impacts on vulnerable communities.

Concluding the Basin Plan is only one driver, and a relatively minor one at that, among many drivers affecting rural communities is also neat way for the MDBA, departments and governments to brush aside socioeconomic impacts as something the Basin Plan can't be held responsible for or expected to address over the next 10-year review period.

That enables the MDBA to focus on the issues it decides the Basin Plan can influence over the next decade, being improving environmental health and improving First Nations participation. Which coincidently are the key issues for the next 10 years that the MDBA has identified in its Basin Plan Review discussion paper. Framing the Review in terms of the environment and First Nations also aligns to the Federal Government's secret National Water Agreement, which by all accounts still sidelines other water users.

By omission, the MDBA appeared to have decided that the Basin Plan's implementation no longer includes its legislated obligation to better support water-dependent industries and communities to have confidence in their future.

Since the discussion paper was published on 4 February, many stakeholders have raised their alarm about this omission. MDBA authority members, executives and staff have acknowledged in various forums it was an oversight and a mistake to exclude socioeconomic issues from the discussion paper.

[59] MDBA (2025) Review of the social and economic impacts of the Basin Plan, July 2025 https://www.mdba.gov.au/sites/default/files/publications/2025-review-social-economic-impacts-basin-plan.pdf, p34.

We trust that socioeconomic impacts and the need for ongoing monitoring, evaluation and reporting will now be taken seriously and feature in the MDBA's final Basin Plan Review report and recommendations.

Socioeconomic impact assessment is a knowledge priority

The Basin Plan in its next 10-year phase to 2036 needs to protect the productive base of the resource (i.e. the consumptive/irrigation aspects of Basin water use). Specifically, there are strong indicators, for example, that:

- Water for irrigated agricultural production, particularly staples such as rice and dairy, is now less secure and affordable.
- Communities with a high reliance on irrigated agriculture are now less confident about their future, their communities' future, and their ability to maintain quality of life through droughts and floods.
- The productivity and resilience of water-dependent industries to withstand climate and other shocks has been eroded by water recovery, due to greater water scarcity and upward pressure on allocation prices.
- The flow-on resilience risks are heightened beyond the farmgate in communities where rice, dairy and other vulnerable commodities are concentrated, such as the NSW Murray and northern Victoria.
- Food sovereignty and security are compromised in the event of climate and other shocks such as pandemics and geopolitical tensions affecting supply chains.
- Riparian properties are at heightened risk of flood damage and production losses due to 'managed environmental flows' that involve pre-filling extensive forest systems such as the Barmah-Millewa. This leaves them more susceptible to major flooding in the event of substantial rainfall in unregulated mountain catchments and the CEWH 'piggybacking' environmental releases onto natural unregulated high flows.

Socioeconomic impact at a regional and local level is a priority for monitoring, evaluation, reporting and information activities over the next decade. The Murray Regional Strategy Group seeks to collaborate with the Murray Darling Basin Authority and Basin government to set common socioeconomic research priorities, including identifying meaningful indicators and study design.

If no data is collected, there's no impact – right?

Shortcomings in socioeconomic impact monitoring, evaluation and reporting at a local and regional scale have been well documented over the past 14 years. It's only going to get worse with the ABS ceasing collection of Gross Value of Irrigated Agricultural Production (GVIAP) data after 2022.

The MDBA in its 2025 socioeconomic impact review acknowledged that 'the absence of an identified impact in this report does not mean no impact occurred – only that it was not measurable through the methods used'.[60]

The MDBA needs to broaden its methods. Many assessments have used methods to drill down into regional and local impacts, and relative impacts by industry[61]. The MDBA has instead preferred to rely on macro-economic modelling assessments based on limited data collected by the Australian Bureau of Statistics and ABARES.

ABARES and ABS collect business data at a gross margin level – gross agricultural business turnover, and gross value of irrigated agricultural production, for example.

However, gross margins are inappropriate for assessing a business's profitability as they do not capture the volatility, risk and structural pressures that shape real-world decisions on Australian farms, and may overstate affordability.

This is because gross margins exclude significant costs such as permanent labour (paid and unpaid), administration, capital expenditure and depreciation, fixed costs (such as rates and fixed water charges) and interest. These omissions are particularly significant in capital- and labour-intensive sectors within the irrigated agricultural sector of NSW.[62]

Specifically, the gross margin approach does not capture:

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[60] MDBA (2025) Review of the social and economic impacts of the Basin Plan, July 2025 https://www.mdba.gov.au/sites/default/files/publications/2025-review-social-economic-impacts-basin-plan.pdf, pix.

[61] For example:

1. RMCG (2017), Basin Plan socioeconomic impacts, NSW Murray Valley, Stage 1. https://drive.google.com/file/d/1hKrOBOVoyKLUPevvTGHKkg9xms3JsSVY/view?pli=1
2. RMCG (2017), Basin Plan impacts, NSW Murray, Stage 2 – Regional economy, https://drive.google.com/file/d/1rol8M9rD7TLNBXvCubGO9FtRn9QtXHg_/view
3. Frontier Economics & TC&A (2022), Social and economic impacts of Basin Plan water recovery in Victoria, https://www.water.vic.gov.au/__data/assets/pdf_file/0033/669426/social-and-economic-impacts-of-basin-plan-water-recovery-in-victoria.pdf
4. Ricardo (2025), Impact of water buyback on the sMDB dairy industry. https://australiandairyfarmers.com.au/wp-content/uploads/2025/06/Ricardo-Impact-buyback-sMDB-dairy-industry-report.pdf
5. RMCG (2025), Farm business affordability, in MIL (2025) IPART Draft Decision on WAMC Price Proposals, MIL Submission to IPART. https://irp.cdn-website.com/ccd882c2/files/uploaded/IPART+draft+Decision+to+WAMC+Price+Proposal+-+MIL+Submission+to+IPART+-+1+July+2025.pdf
6. DCCEEW 2025, Socio-economic considerations of a purchase program arising from the 2024-25 Expression of Interest processes, DCCEEW https://www.dcceew.gov.au/sites/default/files/documents/socio-economic-considerations-2024-25-eoi.pdf

[62] RMCG (2025), Farm business affordability, in MIL (2025) IPART Draft Decision on WAMC Price Proposals, MIL Submission to IPART. https://irp.cdn-website.com/ccd882c2/files/uploaded/IPART+draft+Decision+to+WAMC+Price+Proposal+-+MIL+Submission+to+IPART+-+1+July+2025.pdf

- The sensitivity of different types of irrigated farm businesses to water allocation prices under different climate conditions.
- Changes in the production volumes of different commodities, with implications with sovereign food security.
- The sensitivity of different types of irrigated farm businesses to higher allocation prices. For example, ABARES says another 450 GL from the southern Basin means allocation prices over $200/ML in eight out of ten years[63]. Most farmers can't afford to pay that much that often for water and stay in business.
- The capacity for different water-dependent industries in different locations to bounce back after climate and water market shocks, and what that loss of resilience means for their local communities.
- Comparative water allocation prices under different climate conditions pre- and post-water recovery, based on market history as well as modelling (see graphic on next page).[64]
- The tipping points at which commodity production falls below the critical mass needed to sustain local community jobs in food processing, manufacturing, transport and agricultural service industries.
- The economic diversification options for irrigation-dependent regions.

The MDBA and the Federal Government have also failed to undertake or commission any socioeconomic impact analysis of the heightened flood risk to riparian landholders in the NSW Murray-Edward-Wakool system due to 'managed environmental flows'.

These include pre-filling extensive forest systems such as the Barmah-Millewa and the CEWH 'piggybacking environmental flows' on natural rain events, heightening the risk of major flooding if substantial rainfall events in unregulated catchments such as Victoria's Ovens River cause river levels to rapidly surge.

Action

The problem is not a lack of data – it is the lack of will to fill the local and regional data gaps and explore opportunities and methodologies for better assessment and monitoring, as laid out in the 2022 Social and Economic Conditions Report[65], and 2025 socioeconomic impact review.[66]

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[63] ABARES (2020), Analysis of Economic effects of water recovery in the Murray–Darling Basin https://daff.ent.sirsidynix.net.au/client/en_AU/search/asset/1030661/0

[64] For example, RMCG (2017), Basin Plan socioeconomic impacts, NSW Murray Valley. https://drive.google.com/file/d/1hKrOBOVoyKLUPevvTGHKkg9xms3JsSVY/view?pli=1, pp28-29.

[65] Aither (2022), Murray-Darling Basin Social and Economic Conditions Report, A report prepared for the Murray-Darling Basin Authority, https://www.mdba.gov.au/sites/default/files/publications/murray-darling-basin-social-and-economic-conditions-report-2022.pdf, p40.

[66] MDBA (2025) Review of the social and economic impacts of the Basin Plan, July 2025 https://www.mdba.gov.au/sites/default/files/publications/2025-review-social-economic-impacts-basin-plan.pdf, p43.

It is long past time to address these shortcomings, close the data gaps, and partner with the communities and industries most impacted by the Basin Plan reform to develop an appropriate monitoring, evaluation and reporting program using meaningful indicators.

What we already know

Many studies have highlighted how water recovery before the 450 GL target buybacks began in mid-2024, had already increased allocation prices and water scarcity in the southern Basin, putting pressure on commodities whose production is concentrated in the NSW Murray valley (i.e. rice and dairy).[67] Further studies have highlighted the potential additional impact of recovering all or part of the additional 450 GL.[68]

Water market impacts drive social and economic inequity and uncertainty

ABARES (2020) found water recovery had increased water allocation prices by an annual average of $72/ML over what they would have been otherwise. It found that meant prices would be higher than $200/ML in three out of 10 years.

It then modelled the impact of recovering another 450 GL, and found it would drive allocation prices over $200/ML in eight out of 10 years.[69]

Irrigated agriculture in the southern Basin relies heavily on the allocation market to meet its annual water needs and sustain production; dairy, rice and other commodities simply cannot afford to pay allocation prices this high, this often, and stay in business.

For example, large areas of rice production only occur 'when water allocation prices are below $120 – $150 per ML[70],' so it is clear rice production will contract if farmers are paying more than $200/ML in eight out of 10 years.

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[67] For example, ABARES (2020) Economic effects of water recovery in the Murray–Darling Basin https://daff.ent.sirsidynix.net.au/client/en_AU/search/asset/1030661/0,

[68] For example:

1. DCCEEW (2025), Socio-economic considerations of an expanded purchase program arising from the 2024-25 Expression of Interest processes, DCCEEW, https://www.dcceew.gov.au/sites/default/files/documents/socio-economic-considerations-2024-25-eoi.pdf,
2. ABARES (2024), the impacts of further water recovery in the southern Basin Murray-Darling Basin, https://daff.ent.sirsidynix.net.au/client/en_AU/search/asset/1035841/0;
3. Frontiers Economics (2022), Social and economic impacts of Basin Plan water recovery in Victoria, https://www.water.vic.gov.au/__data/assets/pdf_file/0033/669426/social-and-economic-impacts-of-basin-plan-water-recovery-in-victoria.pdf;
4. Ricardo (2025), Impact of water buyback on the sMDB Dairy Industry, https://australiandairyfarmers.com.au/wp-content/uploads/2025/06/Ricardo-Impact-buyback-sMDB-dairy-industry-report.pdf

[69] ABARES (2020), Analysis of Economic effects of water recovery in the Murray–Darling Basin https://daff.ent.sirsidynix.net.au/client/en_AU/search/asset/1030661/0

[70] Frontier Economics & TC&A (2022) Social and economic impacts of Basin Plan water recovery in Victoria. https://www.water.vic.gov.au/__data/assets/pdf_file/0033/669426/social-and-economic-impacts-of-basin-plan-water-recovery-in-victoria.pdf, p31

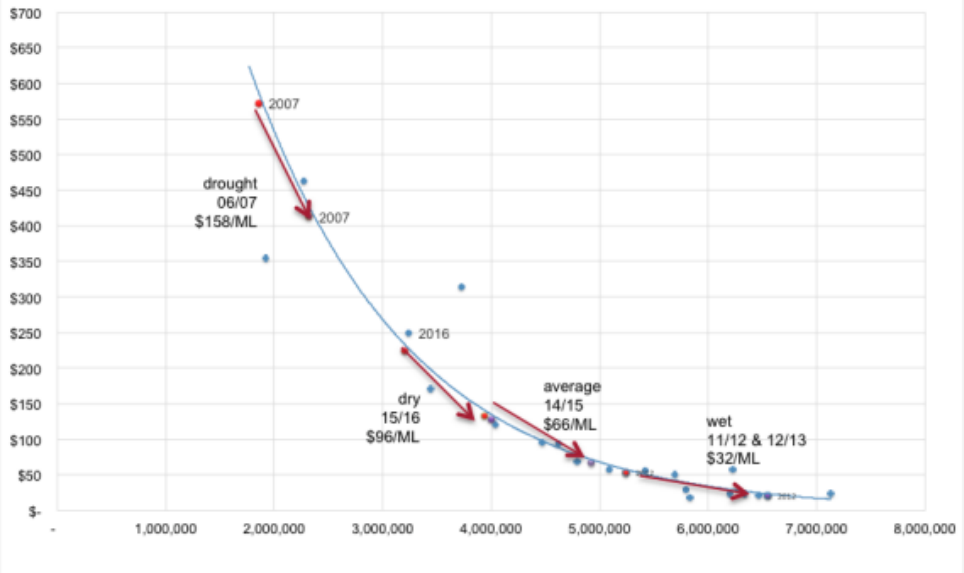
Real world impacts of water recovery on water allocation prices

Analysis of water market data shows a strong inverse correlation between the level of total available water and the price in the temporary market. That is as you would expect - as increasing scarcity drives increased price. This effect is particularly noticeable under dry or drought scenarios.

This graph provides comparative values for four points on the graph (representing the four different climatic scenarios), with or without a 20% decrease in volume available for growing food and fibre, to reflect the change that can be attributed to buyback.

This graph was created in 2017, reflecting water recovery to 2016. It could be easily updated to reflect the likely allocation price impact of additional water recovery. It is notable the analysts concluded that water recovery to 2016 led to a $70/ML average increase in allocation prices, double what the market price would have been. This 'real world' analysis based on actual market prices with different consumptive pool volumes pool aligns with ABARES' modelled $72/ML increase in 2020.

Figure 4-4: Impact of 20% increase in volume on market price



This graph suggests that:

- In a drought scenario (as in 2006/07), increasing the volume of available water by 20% would have reduced the temporary market price from around $575/ML to $420/ML, ie by $155/ML
- In a dry scenario (as in 2015/16), increasing the available water by 20% would have reduced the temporary market price from $236/ML to $140/ML, ie by $96/ML
- In an average scenario (as in 2014/15), increasing the available water by 20% would have reduced the temporary market price from $150/ML to $80/ML, ie by $70/ML
- In a wet scenario (as in 2011/12 or 2012/13), increasing the available water by 20% would have reduced the temporary market price from $55/ML by only $32/ML.

The average climatic scenario is the standard reference point, so this analysis suggests that taking 20% out of the consumptive pool through buyback has led to an average increase in temporary 'allocation' market prices of $70/ML. This is close to a doubling of what would have been the market price.

ABARES modelling to inform the voluntary purchases towards the 450 GL target reinforces how water recovery drives up allocation prices. It says the 300 GL purchasing target will add $49/ML to the $72/ML annual average added to allocation prices due to water recovery to 2022.[71]

However, annual average increases in allocation prices mask the water market impacts of dry and drought years, as demonstrated in the graphic above. They also mask the impacts of industries hitting critical tipping points beyond which downstream processing and support industries lose critical mass and are no longer viable.

For example, the volume of rice grown is directly correlated to the availability and price of water. In 2019 when the average allocation water price increased to $460/ML, the total harvested rice crop declined to just 54,000 tonnes. This compares to 2018 when the price was $140/ML and the total harvested crop was 623,000 tonnes.[72]

In years of typical rice production (~500,000 to 600,000 paddy tonnes), SunRice, an ASX-listed, $1.88 billion global food manufacturer, employs more than 650 skilled workers in the NSW Riverina region, supports around 500 Riverina ricegrowers, sources goods and services from close to 400 Riverina-based small-medium businesses and injects over $400 million into Basin communities through salaries and wages, and payments to growers, suppliers, and contractors.

Its Basin operations include three rice processing mills and associated value-add facilities in Deniliquin and Leeton, a network of storage facilities across the Riverina, and the CopRice animal feed business located at Leeton, Coleambally and Gunnedah in NSW and Tongala and Wangaratta in Victoria.

SunRice has warned that if water recovery continues, the company may be required to make commercial decisions about its Australian manufacturing operations in the Riverina. If processing were offshored, it would be difficult to re-establish back in Australia. Meanwhile, the flow-on impacts from the closure of SunRice and other key Basin manufacturing assets include:

- the loss of thousands of manufacturing jobs in the Basin;
- the loss of significant gross domestic irrigated food production; and,

[71] DCCEEW (2025), Socio-economic considerations of an expanded purchase program arising from the 2024-25 Expression of Interest processes, DCCEEW. https://www.dcceew.gov.au/sites/default/files/documents/socio-economic-considerations-2024-25-eoi.pdf

[72] The SunRice Group (2025), Submission to the Legislative Assembly Committee on Investment, Industry and Regional Developments Inquiry into the Impacts of the Water Amendment (Restoring Our Rivers) Act 2023 on NSW regional communities. https://www.parliament.nsw.gov.au/ladocs/submissions/90057/Submission%20101%20-%20SunRice%20Group.pdf

- the loss of our domestic capability and food security independence at a time when the geo-political context means food supply chains internationally are becoming increasingly volatile. As a staple food globally, rice supply chains are subject to government policy intervention by foreign governments.[73]

Similarly, in the dairy industry, under a high buyback scenario of over 600GL, milk production in the southern basin could fall by up to 15 per cent, while water prices increase by 40 per cent, equating to a loss of up to 270 million litres of milk annually.[74]

Farmers with little or no entitlement ownership (next generation farmers) are particularly exposed and face rising input costs and a limited ability to absorb them. Some farms could lose up to 40 per cent of their earnings before interest and tax. This is not marginal adjustment — it is structural exits from the industry.

At the same time, the southern basin is home to more 40 dairy processing facilities from small boutique type operations to large volume processing, employing almost 2000 people directly across eight local government areas. Reduced milk supply directly affects plant utilisation while lower throughput means higher per-unit processing costs. The combination increases the risk of plant closures.

Kagome Australia is a major processed fruit and vegetable company, and the largest tomato processor in the nation. With 39 major international customers, Kagome grows and processes tomatoes, garlic, carrots and corn all within a 150km radius of Echuca in northern Victoria, irrigating 330 days of the year from the start of the season to the end.

The company employs 153 full-time-equivalent and seasonally 300-350 people across nine tomato harvesters operating 24/7; its regional operations inject $104-$112 million a year and $27 million in wages into NSW Riverina/northern Victorian local economies.

It has capacity to process 250,000 tonnes of tomatoes annually, but is processing only 150,000 tonnes. It also has capacity to process 30,000 tonnes of carrots, but is processing 22,000 tonnes.

Water is the main constraint on the company's growth. Kagome spends $1.7-$4.8 million on water every year, with the rising cost of water forcing production away from zone 7 into Victoria and into the NSW Riverina. This has increased transport costs by $1.4 million to $3.6 million (excluding current fuel crisis).

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[73] The SunRice Group (2025), Submission to the Legislative Assembly Committee on Investment, Industry and Regional Developments Inquiry into the Impacts of the Water Amendment (Restoring Our Rivers) Act 2023 on NSW regional communities. https://www.parliament.nsw.gov.au/ladocs/submissions/90057/Submission%20101%20-%20SunRice%20Group.pdf

[74] Ricardo (2025), Impact of water buyback on the sMDB dairy industry. https://australiandairyfarmers.com.au/wp-content/uploads/2025/06/Ricardo-Impact-buyback-sMDB-dairy-industry-report.pdf,

The company's NSW Regional Manager. Darcy Kirchhofer told a community Basin Plan Forum[75] that ongoing water recovery has created uncertainty and concern. He warned it was difficult to ask for capital investment into Kagome farming operations when the threat of unstable water availability and pricing remained unknown.

Water recovery also poses a significant sovereign food risk to sustaining production through climate and other shocks. The 189.6 GL purchased towards the 450 GL at 25 February 2026 has left fixed plantings below the Barmah Choke – nuts, grapes, citrus, stonefruit and olives – almost 500 ML[76] short of their water needs under the dry scenario currently forecast for 2026-27[77], even if fixed plantings got all the water allocated.

These studies give cause enough for socioeconomic impact assessment, monitoring and evaluation at a southern-connected Basin scale, and at local and regional level.

Driving water to its most productive use hurts communities and resilience

The Water Act's provision for 'water to reach its most productive use through the development of an efficient water trading regime across the Murray-Darling Basin' is understood in economic theory as water moving to its highest end value $/ML use.

In this theory, the shift in water use away from rice, dairy and other irrigated commodities under the Basin Plan towards expanded fixed plantings such as almonds is an absolute good that demonstrates the Basin Plan is meeting its socioeconomic objectives and outcomes.

This could not be further from the truth. This metric takes no account of the fact fixed plantings are not expanding in the same places where rice, dairy and other commodities are declining. It takes no account of total value of commodities once food processing and manufacturing, transport and agribusiness services are included in the analysis; these post-farmgate activities can be more valuable in terms of income than the $/ML return at the farmgate.

It also ignores the complex interdependencies across commodities in a region. If dairy farms go out of business, then farms supplying them with irrigated fodder and hay lose income and viability. If water becomes too expensive to grow irrigated grain and hay, then dairy farms and meat producers lose reliable, affordable feed.

Irrigation enables hay and grain reserves to be built up as a buffer for meat and dairy enterprises across Australia to survive droughts. As water becomes too expensive, the loss of grain and hay reserves is eroding the resilience of our agricultural sectors to survive droughts and natural disasters such as fire and floods.

[75] Water Forum, Saving the Basin from the Highway to Hell, Central Murray Environmental Group Floodplains Group, Barham, 31 March 2026.
[76] Ruralco Water (2026) Below Choke Water Markets report – 2025-26 Insights and 2026-26 Outlook, https://www.youtube.com/watch?v=kNuwGQ51_jk
[77] GMW (2026), Current Outlook, 1 April 2026, https://nvrm.net.au/outlooks/current-outlook

Local red flags abound in MDBA reports

In this next section, we would like to highlight some examples of new red flags in reports commissioned by the MDBA for the 2026 Review. These red flags indicate the Basin Plan is failing to meet its legislated socioeconomic objectives and outcomes at a local and regional level in the NSW Murray valley.

We spell out the lines of enquiry that should be pursued from these red flags as the basis of a program of local and regional socioeconomic impact assessment in the NSW Murray over the next 10-year phase of the Basin Plan to 2036. This work must start immediately rather than the MDBA waiting for the deathknock to scramble something together in the last couple of years before the 2036 deadline.

Water reform has eroded NSW Murray valley's confidence in its future

The University of Canberra's 2023 Regional Wellbeing Survey[78] found most Basin residents are fulfilling the universal values of having healthy levels of wellbeing, feeling confident in the future of their livelihood, and living in a community with good liveability, viability and amenity.

However, the same was not true of many of the specific values held about how water resources are shared, managed and used. The survey indicates that the Basin Plan reform is cause for concern among many Basin communities – particularly those that are irrigation-dependent such as the NSW Murray valley that we represent.

In general, the survey shows water recovery has made people in the central NSW Murray valley less confident about their future, their communities' future, and their ability to maintain quality of life through droughts and floods. Specifically, central NSW Murray residents, compared with the Basin as a whole, are:

- Overwhelmingly of the view water is not being managed well to achieve positive outcomes for communities (66.5%).
- Not confident their interests are represented in water decision-making processes.
- Less likely to be confident to make decisions about their livelihoods.
- Less confident their livelihood can navigate challenging times.
- Less satisfied with livelihoods supported by water resources.

[78] University of Canberra, Marsden Jacob, (2025), Basin Community Values, Final report, Basin Condition Monitoring Program (BCMP) Project 2.1: Basin community water values, cohesion, wellbeing and amenity. https://www.mdba.gov.au/sites/default/files/publications/bcmp-basin-community-values-final-report-uc_0.pdf

- Less likely to feel confident to make decisions about the future direction of their livelihood.
- More likely to report their livelihood could be affected a lot by Basin water management.
- Less confident they can keep their job in the future if challenges occur.
- Less likely to feel they live in a community they feel is liveable and viable.
- Less likely to recommend their community as a good place to live.

Southern Basin irrigators, particularly those irrigating from channels typical of the systems in the NSW Murray valley, are:

- Less likely to feel their community copes well with challenges.
- Less likely to have confidence in the future of their local community.
- Less confident their interests are represented and acted on in water decision-making processes.
- Less likely to believe water managers are working collaboratively to achieve good outcomes.

The findings overall suggest that levels of concern about Basin water management and security of water access are additional contributors to psychological distress amongst Basin irrigators.[79] It is noteworthy that this survey was undertaken before the Federal Government began recovering another 450 GL almost entirely through more buybacks, and the prospect of further water recovery to fill the anticipated 300 GL shortfall.

So, it is clear that in the NSW Murray, the Basin Plan is failing to deliver its legislated outcome of communities with confidence in their long-term future.

Aither notes the University of Canberra's Regional Wellbeing Survey is not completed every year and relies on relatively small sample sizes within each LGA. In the central NSW Murray region, only 197 people did the survey in 2023, compared with 939 in the lower Murray and 874 in the Murrumbidgee.

The survey also relies on people first, knowing about it and, second, being motivated to complete it. This and the lack of other local social indicators, can make it challenging to draw out demographic and wellbeing trends at a local scale across the Basin.[80]

[79] University of Canberra, Marsden Jacob, (2025), Basin Community Values, Final report, Basin Condition Monitoring Program (BCMP) Project 2.1: Basin community water values, cohesion, wellbeing and amenity. https://www.mdba.gov.au/sites/default/files/publications/bcmp-basin-community-values-final-report-uc_0.pdf, p30.

[80] Aither (2022), Murray-Darling Basin Social and Economic Conditions Report, A report prepared for the Murray-Darling Basin Authority, https://www.mdba.gov.au/sites/default/files/publications/murray-darling-basin-social-and-economic-conditions-report-2022.pdf, p40.

Basin Plan impact on irrigated agriculture in the NSW Murray Valley

The loss of confidence recorded in the survey above correlates with observed changes in the area irrigated, irrigated agricultural turnover and the mix of irrigated crops in communities with a high dependence on irrigated agriculture.

The changes evident in the MDBA reports informing this section were on the basis of water recovered before the Federal Government began its buybacks towards the 450 GL target in July 2024. It bears repeating these MDBA reports only consider:

> *the estimated impact of water recovery between 2008 and 2022. Crucially, they should not be seen as an estimate of the potential impacts of additional water recovery as the relationships observed to date may not hold in the future.*[81]

So, to begin to paint a picture, water recovery under the Basin Plan was found to have had a statistically significant impact on irrigated agricultural turnover in the LGAs of the NSW Murray Valley below; Federation was not included in the MJA analysis.[82]

- Wentworth – irrigated agriculture is ~35% of total LGA agricultural turnover, and water recovery has reduced irrigated turnover by about 2.2%
- Balranald – irrigated agriculture is ~30% of total LGA agricultural turnover, and water recovery has reduced irrigated turnover by about 1.2%
- Edward River – irrigated agriculture is ~7% of total LGA agricultural turnover, and water recovery has reduced irrigated turnover by about 0.6%
- Murray River – irrigated agriculture is ~11% of total LGA agricultural turnover, and water recovery has reduced irrigated turnover by about 1%
- Berrigan – irrigated agriculture is ~20% of total LGA agricultural turnover, and water recovery has reduced irrigated turnover by about 1.7%

These figures mask impacts at local level affecting communities in towns such as Berriquin, Finley, Deniliquin and Wakool. The Edward River, Murray River, Berrigan and Federation LGAs, for example, cover very large areas, most of which is dryland agriculture unaffected by the Basin Plan's water recovery.

In these LGAs, the Basin Plan's socioeconomic impacts will be felt in communities, agricultural enterprises and towns within the water trading zones where water recovery has occurred. Here, the reduction in irrigated agriculture turnover will form a much

[81] MDBA (2025) Review of the social and economic impacts of the Basin Plan, July 2025 https://www.mdba.gov.au/sites/default/files/publications/2025-review-social-economic-impacts-basin-plan.pdf, pix.

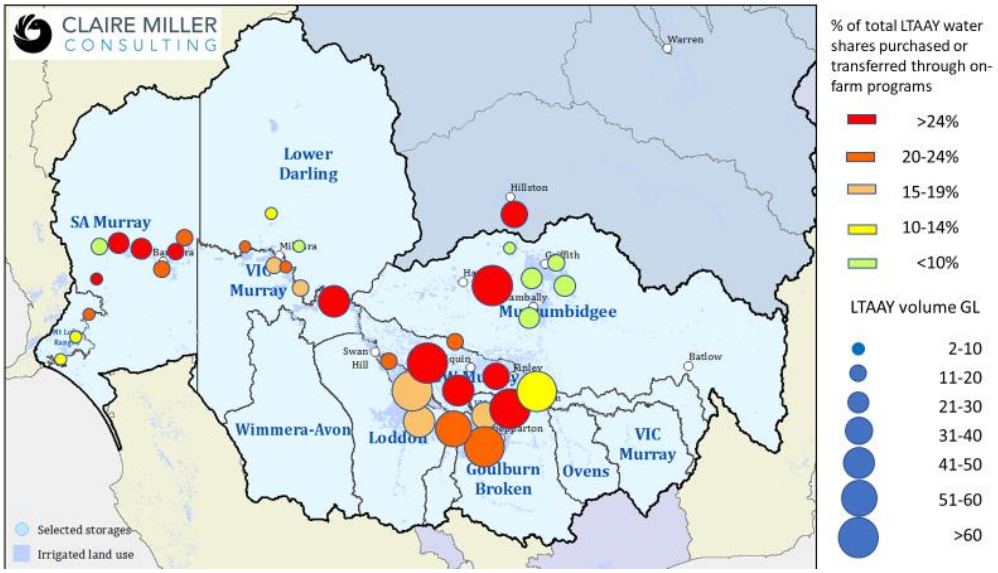
[82] MJA (2025) 'Social and economic conditions of Murray-Darling Basin communities and the contribution of Basin Plan activities', Marsden Jacob Associates, 2025 https://www.mdba.gov.au/sites/default/files/publications/bcmp-social-economic-conditions-mdb-communities-contribution-bp-activities-mardsen-jacob-report.pdf, p156.

larger proportion of total agricultural turnover. This will demonstrate more clearly an economic impact of water recovery at a local and regional level.

The signs are clear in other MDBA reports. For example, around half the irrigable area in the Edward-Kolety and Wakool river systems, which make up a large part of the area we represent, is no longer under irrigated crop production.[83]

While the area irrigated fluctuates depending on climatic conditions and water allocations, the area irrigated increased only by 12% to 92,655 hectares in 2024, a wet year with 105% General Security allocation in the NSW, compared with the previous mapping year of 2021 when general security allocations were only 55%.

The failure of annual irrigated crops to substantially bounce back in a wet year is not surprising when NSW Murray communities experienced the largest volumes of water entitlements recovered to 2016, representing more than 24% of their annual average water available from irrigation entitlements.[84] This is before adding in the additional 66.6 GL (long-term annual average) bought so far in the NSW Murray toward the 450 GL.[85]



Volume and percentage of irrigation water sold or transferred to the environment under the Basin Plan. Volume is annual average water available from irrigation entitlements. *Data for map sourced from MDBA community profiles.*[86]

[83] MDBA (2025) Irrigated crop area data for the Lower Murray-Darling 2003 to 2024, including analysis of the Edward/Kolety and Wakool river system. https://www.mdba.gov.au/sites/default/files/publications/final-report-irrigated-crop-area-data-for-the-lower-murray-darling-2003-to-2024.pdf, p23.

[84] MDBA (2017), Southern Basin community profiles, https://www.mdba.gov.au/publications-and-data/publications/southern-basin-community-profiles.

[85] DCCEEW (2026), Purchasing progress in February 2026, https://www.dcceew.gov.au/water/policy/water-recovery/government-water-purchasing/voluntary-restoring-our-rivers.

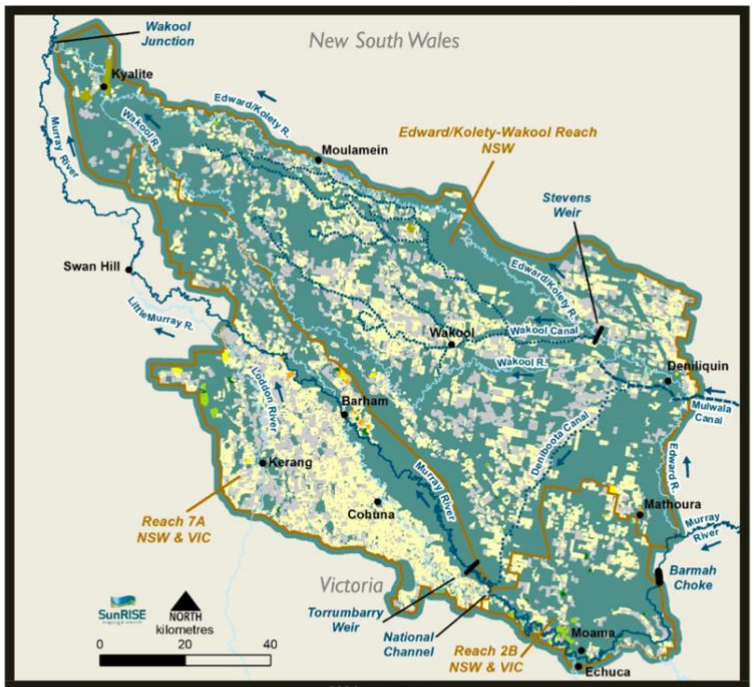
[86] MDBA (2017) Southern Basin community profiles, https://www.mdba.gov.au/publications-and-data/publications/southern-basin-community-profiles

The data set for the irrigable area/area irrigated for the mid-Murray region, including Edward-Kolety and Wakool systems covers only 2021 and 2024. The same report has point-in-time mapping for the Lower Murray covering NSW, Victoria and South Australia going back every three years to 2003.

The first of the Lower Murray reports was published in 2019, but used satellite mapping to create a time series back to 2003. There is no reason why the data set for the Mid-Murray could not also be extended back to 2003, to illustrate the area irrigated/not irrigated within the irrigable land footprint.

It is likely to show that, like the Lower Murray, almost all the irrigable area was in fact irrigated and bounced back in response to wet years, before the Basin Plan water recovery began to have an impact after the flood years of 2011 and 2012. The same mapping should be undertaken to cover all water trading zones in the southern connected Basin where irrigated agriculture is concentrated.

It is also notable that while the irrigable area in the lower Murray increased 22% from 194,715 hectares in 2003 to 250,150 hectares in 2024, the area actually being irrigated only increased by 6%, from 172,330 hectares to 183,380 hectares. The area not being irrigated in the irrigable land footprint increased from 22,385 hectares – or 11% of the irrigable footprint – to 66,770 hectares, or 27% of the irrigable area.[87]



2024 crop types

	Permanent plantings					Seasonal crops		Vacant / not irrigated		Total ha
	Grapevine	Citrus	Fruit tree	Nut tree	Other	Field crop	Vegetable	Vacant S	Vacant P	
VIC	380	70	130	50	175	60,150	225	36,310	165	97,655
NSW	310	350	155	960	120	114,995	340	96,695	295	214,220
Total ha	690	420	285	1,010	295	175,145	565	133,005	460	311,875
	<1%	<1%	<1%	<1%	<1%	56%	<1%	43%	<1%	
	1%					56%		43%		

Map 5: Mid-Murray study area, NSW and VIC, with crop types in 2024

The local socioeconomic question here is whether the increase in land not being irrigated is concentrated within irrigation districts such as Western Murray Irrigation, Sunraysia, Renmark and the Central Irrigation Trust, where the Swiss Cheese effect undermines the viability of these systems.

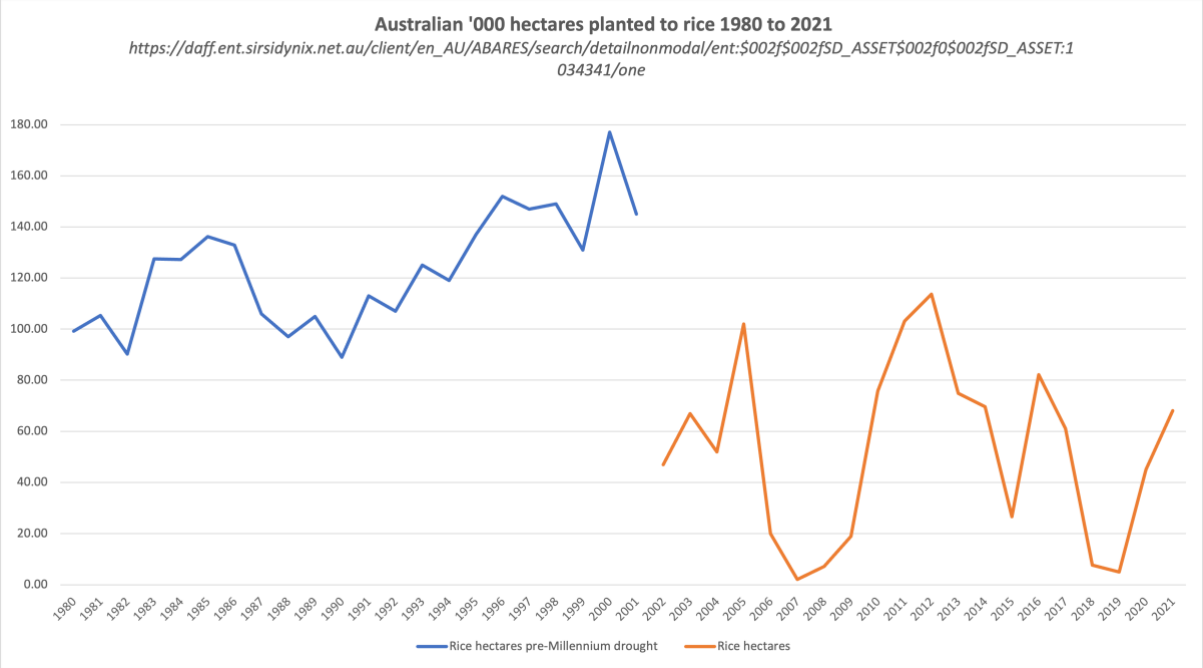
The 'Swiss cheese' effect is certainly evident in the Murray Irrigation Ltd

[87] MDBA (2025) Irrigated crop area data for the Lower Murray-Darling 2003 to 2024, including analysis of the Edward/Kolety and Wakool river system. https://www.mdba.gov.au/sites/default/files/publications/final-report-irrigated-crop-area-data-for-the-lower-murray-darling-2003-to-2024.pdf, p27.

footprint across the Edward River-Kolety and Wakool system, in Map 5 from the irrigated crop area reports.[88]

This illustrates another line of socioeconomic impact inquiry that must be undertaken, to fully understand the heightened business viability risk to irrigation districts such as Murray Irrigation. They are already challenged in adapting their service models and cost structures to remain viable with fewer water users with the recovery of the additional water towards the 450 GL, much less the prospect of another up to 355 GL to make up a shortfall in the SDLAM environmental water offsets.

The reduction in irrigated area in the central NSW Murray Valley is consistent with the evidence, showing how the area planted to the summer crop rice in southern NSW declined during the Millennium drought from 2000 to 2010[89], when general water security allocations were low or zero.



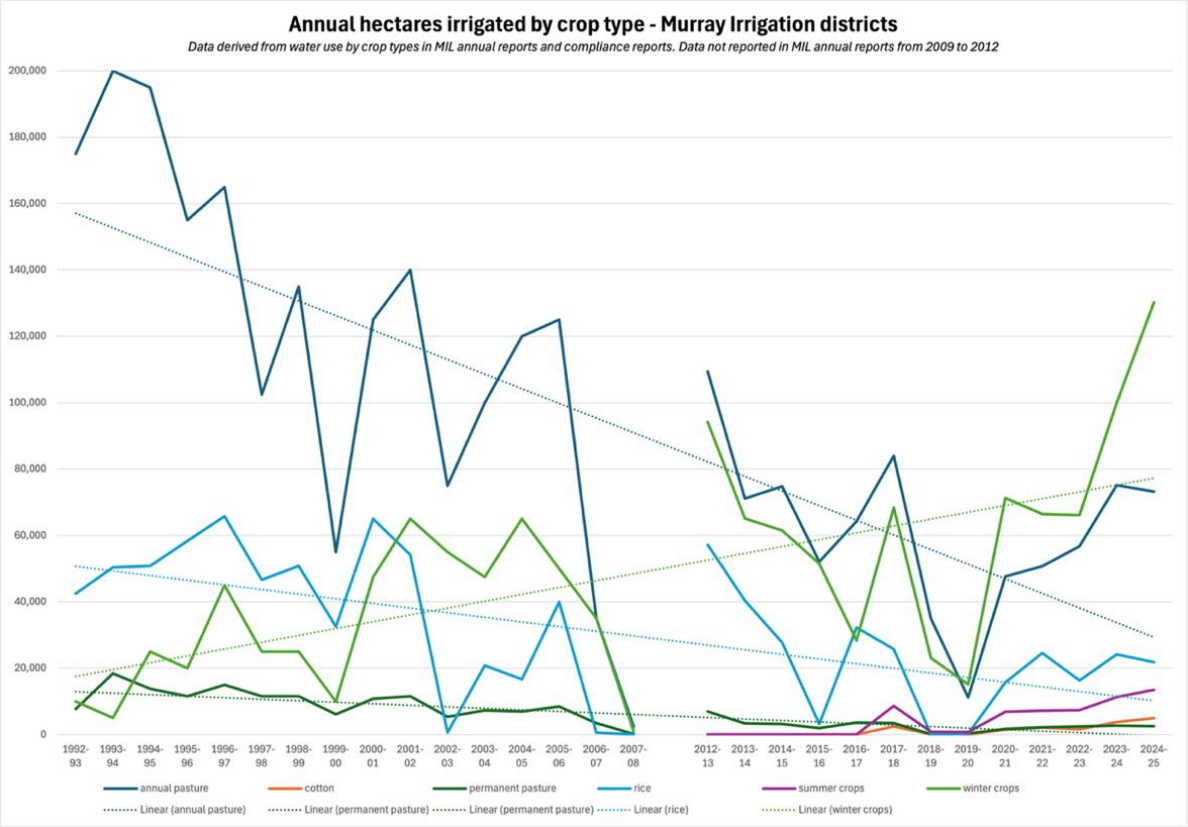
However, the area planted did not rebound to its historic levels with the end of the Millenium drought, after the consumptive pool had been reduced by buybacks from 2008 to 2012. The area planted has continued trending down since, reflecting the impact of less water at higher allocation prices.

[88] MDBA (2025) Irrigated crop area data for the Lower Murray-Darling 2003 to 2024, including analysis of the Edward/Kolety and Wakool river system. https://www.mdba.gov.au/sites/default/files/publications/final-report-irrigated-crop-area-data-for-the-lower-murray-darling-2003-to-2024.pdf, p23.

[89] ABARES (2022) Agricultural commodity statistics. *https://daff.ent.sirsidynix.net.au/client/en_AU/ABARES/search/detailnonmodal/ent:$002f$002fSD_ASSET$002f0$002fSD_ASSET:1034341/one*

This may not mean much at the farm level. Rice farmers are mixed farmers, growing a variety of winter and summer crops and often with some livestock as well. They may simply be substituting other crops for rice to stay in business.

This transition can be seen in the area planted to different crops in the MIL districts, where the area planted to winter crops which can be finished off with irrigation has increased as the area planted to rice, a summer crop, has declined. However, these increases have not totally offset the contraction in rice plantings.



A reduction in rice production has serious flow-on effects for off-farm jobs, for example, the rice processing mill in Deniliquin which is a major employer in a town of 8000 people, and for related transport and other support services.

The question is: if farmers are growing more of something else, does that create more jobs in those downstream processing, transport and service industries that will offset what might be lost in the rice sector?

This is a critical line of enquiry that must be investigated, to inform programs and projects to support communities and generate new economic opportunities.

Actions

1. Assess the reduction of irrigated agricultural turnover as a proportion of agricultural turnover within the water trading zones encompassing the communities of Berrigan, Finley, Deniliquin, Wakool and others.

2. Assess the opportunity cost of the reduction in consumptive pool to grow food and fibre, measured by farmgate returns in today's dollars. For example, 1 ML grows one and a half bales of cotton worth $1000. That cotton is worth $6000 to the local economy through the multiplier effect.[90] Similarly every dollar of rice produced generates four dollars to the local economy, [91] while every dollar of dairy value-adding injects $5.30 into the local economy.[92]
3. Halt State and federal policy decisions that reduce entitlement reliability in ways that drive more environmental water recovery, for example, water accounting changes like the LTDLE conversion factors in the NSW WRPs, or increasing town reserves in case of a one in 10,000-year drought.

$120m water handback bill

PETER HUNT

The federal government must find another $120m to offset a change in water accounting rules that have forced it to hand back 10 gigalitres of over-recovered water under the Murray Darling Basin Plan.

In the lead up to last year's federal election, then-federal Water Minister Tanya Plibersek used amendments to the federal Water Act to shift 78.2GL of excess Basin Plan water, recovered from the Goulburn, Macquarie-Castlereagh, Murrumbidgee and NSW Border Rivers, to prop up the government's so-called up-water target pool of 450GL.

The Macquarie-Castlereagh, where 95.8GL was recovered more than a decade ago, was stripped back to its Basin Plan target of 57.6GL, with the excess 38.2GL reallocated to the 450GL pool.

But in October last year, the MDBA updated its water accounting models' long-term Diversion limit equivalent factors, which suddenly reduced the volume recovered under the Basin Plan in each of the NSW valleys.

A DCCEEW spokeswoman said "these updates have increased the (Basin) water recovery gap for the NSW Border Rivers (and) reopened gaps in the Macquarie-Castlereagh and Murrumbidgee catchments. The government will return any water previously transferred to the 450GL target to ensure there are no gaps to SDLs in those catchments as a result of LTDLE changes."

It means returning 9.4GL to the Macquarie-Castlereagh, 0.1GL to the Murrumbidgee and 0.5GL to the NSW Border Rivers. The handback means the federal government must now make up the 10GL shortfall on its 450GL target, by purchasing more water.

The current price for LTDLE or cap-equivalent water entitlements is between $11,000 to $12,000 a megalitre, which puts the total cost of offsetting the handback at $110m to $120m – most of which must be recovered from the southern basin.

NSW Irrigators' Council chief executive Madeleine Hartley said "it's little wonder water users remain sceptical about water recovery programs occurring between various Commonwealth and state programs", when "the goalposts for water recovery are constantly shifting to the detriment of water users".

"We need greater transparency over how these numbers are determined and the losses suffered by water users through each program," Dr Hartley said. Prior to the reallocation in early 2025 the Department of Climate Change, Energy, the Environment and Water records show the government had purchased just 30.7GL towards the 450GL.

Adding the 78.2GL of over-recovered water allowed Ms Plibersek to say on March 6, in 2025 that the government had recovered "more than 100 times more environmental water than the previous Liberal National governments did in 10 years of office".

Weekly Times, 16 March 2026

4. Mandate regular community surveys with large, representative samples to understand their views on water management, water related issues and social conditions relating to water, and how these views are changing over time.
5. Analyse the water availability and affordability for different irrigated commodities grown in the Murray-Darling Basin, and the impact of upward pressure on water allocation prices on these different commodities.
6. Commission irrigated area data reports across all water trading zones in the southern connected Basin, with point-in-time snapshots extending back to the early 1990s.
7. Analyse the flow-on socioeconomic impacts on jobs and businesses in food processing, transport and agricultural support services, due to reduced irrigated agricultural turnover and production in key commodities in water trading zones.

[90] IBIS (2023), Cotton Growing in Australia – Market Size, Industry Analysis, Trends and Forecasts (2023-2028)

[91] AgriFutures Australia (2023), https://agrifutures.com.au/news/rice-industry-focus-on-maximising-productivity-from-every-grain/

[92] Australian Dairy Products Federation, (2026), https://adpf.org.au/about/test-display/

8. Analyse the heightened business viability risk of further water recovery to irrigation districts such as Murray Irrigation, with reduced area of irrigation and fewer water users.

Water policy red flags for national food security

Australia's food security now and into the future relies on a sustainable, affordable and diverse home-grown supply. However, while governments frequently proclaim support for farmers with initiatives such as the National Food Security Strategy, their policy levers in water, to name one key portfolio area, are counterproductive, working in practice to squeeze farm and food manufacturing margins to the point of failure.

The Murray Regional Strategy Group focused on how water policy in the Murray-Darling Basin threatens Australia's food security in its 2025 submission to the National Food Security Strategy. We identified the areas requiring focused and deep analysis of the supply and affordability risks – areas that federal departments and agencies have so far neglected to take seriously, despite the red flags evident in the data available.

We have included our National Food Strategy Submission in Appendix 1, to inform the Basin Plan Review.

Missing information to inform feedback

Key information we needed to inform our submission is missing. For example:

1. The final report of the independent advisory panel on the feasibility of relaxing constraints.
2. Final SDL assessments to determine whether SDLs represent an ecologically sustainable level of take (ESLT).
3. The industry profiles promised almost a year ago in the MDBA's 2025 Review of the social and economic impacts of the Basin Plan.[93]

Infrastructure

It is concerning to read that much of the Basin's essential river infrastructure is near or past its engineered life span and increasingly vulnerable to failure.

It is even more concerning to read that current capital expenditure is only one-third to half the level needed to sustain the infrastructure. It is frustrating that billions of dollars are being spent on more water recovery that will not improve environmental outcomes,

[93] MDBA (2025) Review of the social and economic impacts of the Basin Plan, July 2025 https://www.mdba.gov.au/sites/default/files/publications/2025-review-social-economic-impacts-basin-plan.pdf, pvi.

instead of fit-for-purpose assets in good operable condition to deliver environmental water effectively as well as supply water for towns, agriculture and industry.

Actions

1. Water buybacks towards the 450 GL cease immediately and all remaining funding earmarked for water recovery is redirected to priorities such as complementary measures and infrastructure.
2. Basin river infrastructure capital expenditure is deemed to be of national importance, and therefore eligible for Infrastructure Australia funding.
3. Recognising the Basin Plan has served to elevate the national public interest, any additional investment in southern Basin infrastructure should be fully funded by governments themselves, and not passed on for cost recovery from water users.

Conclusion

> *We heard from people caught in a one-way conversation—over-consulted and under-listened to. They were frustrated that decisions are being made 'for' them, often with short term objectives as the predominant driver. They want to be part of a conversation that sets a coherent vision and drives sound policy that deals them in again.*[94]

The Basin Plan is failing to deliver on its legislated core outcome of communities with confidence in their long-term future, in the regions most affected by the reform's focus on water recovery since its inception in 2007.

It is also failing to deliver on its legislated core outcome of productive and resilient water-dependent industries in the regions most affected by water recovery.

Yet, the MDBA chose not to discuss past and emerging socioeconomic impacts in its Discussion Paper. The omission is especially egregious when the socioeconomic impact assessments informing the Review do not include the impacts of recovering the full 450 GL, much less another up to 355 GL to cover the SDLAM shortfall – even though the Discussion Paper assumes both in its implementation vision for the next 10 years.

The Basin Plan is also failing to deliver the environmental outcomes that taxpayers would reasonably expect for a $13 billion reform that has recovered more than a third of water from the southern Basin consumptive pool to grow food and fibre. While there are some localised environmental gains, at a Basin scale native fish continue to decline, waterbirds are only holding their own and improved water quality remains elusive.

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[94] Sefton et al. (2020), Final Report: Independent assessment of social and economic conditions in the Murray–Darling Basin, https://www.mdba.gov.au/sites/default/files/publications/seftons-report-september-2020.pdf, p7

The recent listing of the Murray below the Darling River junction as a threatened ecological community under the EPBC Act underlines the failure of the Basin Plan. The 2024 nomination looked little different from the 2013 nomination, suggesting that more than 10 years of water recovery for the environment, new knowledge of e-watering impacts, and investment in efforts to protect and restore this and other ecological communities had made no difference at all to the lower Murray's health.[95]

The initial SDL assessments make it clear that recovering more water is not the answer to achieving better outcomes for native fish, water bird, water quality and other key environmental indicators depends on non-flow measures and projects – yet the Discussion Paper does not make this clear, to inform feedback.

Members of the Murray Regional Strategy Group have engaged in the Basin Plan's development and implementation for almost 20 years. We have time and again made submissions and provided feedback that is evidence-based, constructive and solutions-focused.

We have time and again been ignored, as if the last people who should have a say are those who know their rivers best and have an intimate, practical knowledge of water management. The same people who actually have to live with the impacts of this reform on the environment and their businesses and communities.

Our region is overwhelmingly of the view water is not being managed well to achieve positive outcomes for communities (66.5%), according to the 2023 Wellbeing Survey informing the Basin Plan Review. Nor are they confident their interests are represented in water decision-making processes.

We trust that this time the consultation process is not just another tick and flick, where the decisions have already been made by distant public servants, politicians and academics who think they know better than Basin communities what's good for them.

[95] NSWIC (2024), Submission on the EPBC nomination of the Murray River downstream of the Darling River. https://www.nswic.org.au/wp-content/uploads/2024/10/2024-10-15-NSWIC-Murray-River-EPBC-listing-submission.pdf

Appendix 1: Submission to National Food Security Strategy, 24 September 2025

MURRAY REGIONAL STRATEGY GROUP

Water and food security:

When Government policy risks a nation going hungry

National Food Security Strategy Submission

24 September 2025

Table of Contents

Introduction

Australia's food security now and into the future relies on a sustainable, affordable and diverse home-grown supply. While the three priorities[96] outlined in the National Food Security Strategy discussion paper are relevant, the critical impact of government policy and regulation is conspicuously missing from the priority list.

Governments frequently proclaim support for farmers with initiatives such as this food security strategy. At the same time, their policy levers in planning, taxation and water, to name only a few key portfolio areas, are counterproductive, working in practice to squeeze farm and food manufacturing margins to the point of failure.

In this submission, we focus on how water policy in the Murray-Darling Basin threatens Australia's food security. We identify the areas requiring focused and deep analysis of the supply and affordability risks – areas that federal departments and agencies have so far neglected to take seriously, despite the red flags evident in the data available.

While it is true that government does not control many of the levers of the food system,[97] the national food strategy must prioritise action on those levers governments do control. Broad and deep analysis of all policies and regulations affecting food production is essential to inform a credible and effective national food strategy.

Food production in the Murray-Darling Basin

The Murray-Darling Basin is rightly described as Australia's food bowl. It is home to 40% of all farms in Australia, and produced $30 billion worth of food and fibre in 2020-21, 43% of the $71 billion gross value of Australia's agricultural product in that year.[98]

A substantial proportion, if not the bulk, of food staples essential to Australian food security are grown in the Basin. These support food processing and manufacturing essential to the supply chain bringing these staples to supermarket shelves.

For example, in 2020-21[99]:

- **Rice:** $171 million worth of rice was grown in the Basin, 98% of the $174 million Australian total.

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[96] Competition and cost of living; productivity, innovation and economic growth; and, resilient supply chains, p6.
[97] National Food Security Strategy discussion paper, p4.
[98] Value of Agricultural Commodities Produced, Australia 2020-21, https://www.abs.gov.au/statistics/industry/agriculture/value-agricultural-commodities-produced-australia/2020-21 Note: 2020-21 was the most recent data we could find: the ABARES Snapshot of Australian Agriculture 2025 did not include a breakdown of the Basin's share of the total $82.4 billion gross value of agricultural production in 2023-24.
[99] *Ibid*.

- **Nuts:** $735 million worth of nuts including almond and macadamias were grown in the Basin, 70% of the $1044 million Australian total.
- **Orchard fruit:** $1921 million worth of fruit (including citrus, cherries, pears, nectarine, peaches, apples, avocadoes, mangoes and olives) were grown in the Basin, 55% of the $3464 million Australia total.
- **Dairy:** $1081 million worth was produced in the Basin, 23% of the $4087 million Australian total.
- **Vegetables:** $949 million worth of vegetables were grown in the Basin in 2020-21, 20% of the Australian total of $4779 million.

These and other food staples rely on irrigation to sustain production, particularly during droughts when many dryland operations have ceased to produce. They therefore require a secure, adequate and affordable water supply.

Any government policies that affect the volume and affordability of water for farmers to grow food, and the supply of that food to processors and manufacturers, have a direct impact on Australia's food security.

Water policy reform in the Murray-Darling Basin.

The 1994 COAG water reform framework recognised an overallocation of surface water for human use water in the Murray-Darling Basin, and froze diversions at 1994 levels.

Since then, a series of reforms including Water for Rivers, The Living Murray and the 2012 Murray-Darling Basin Plan have dramatically reduced the amount of water annually available for irrigated agriculture in the southern-connected Basin through outright water buybacks and on- and off-farm water efficiency projects.

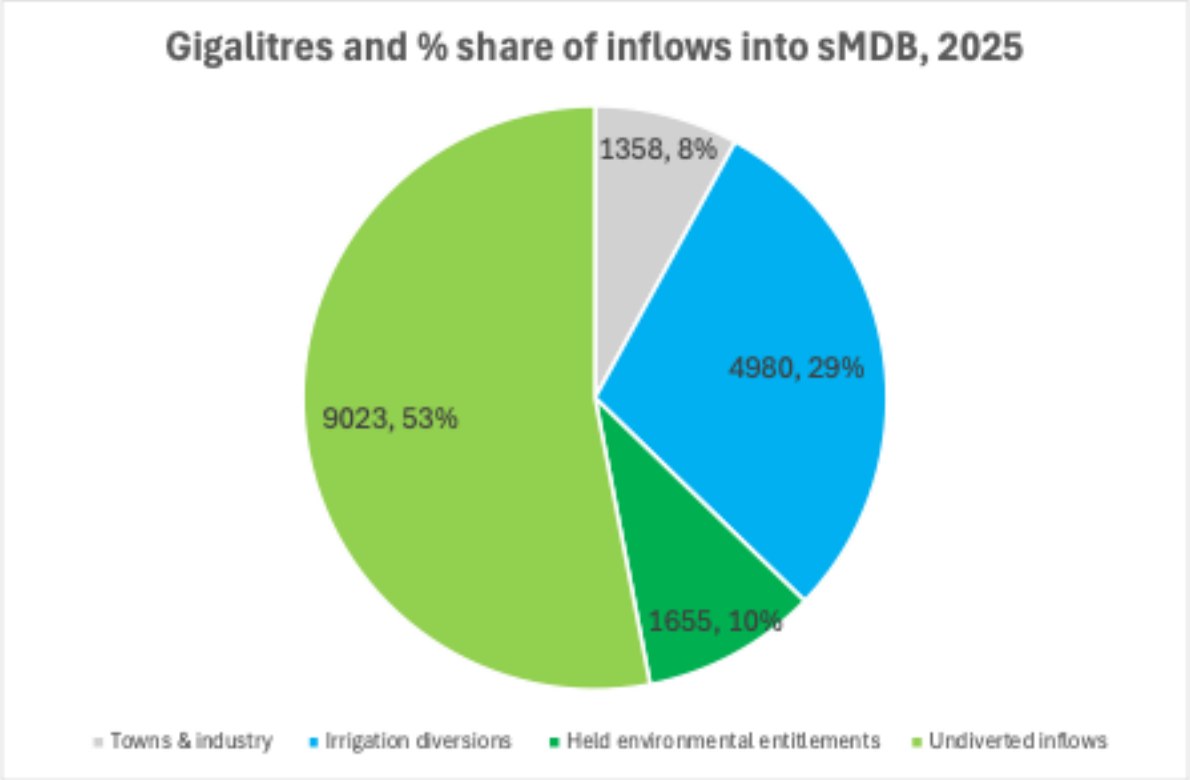
Murray-Darling Basin Authority (MDBA) modelling to inform the 2012 Basin Plan estimated an annual average 17,016 GL (one gigalitre (GL) equals one billion litres) of inflows[100,] into the southern-connected Basin.[101]

The MDBA model estimated total annual average surface water source diversions for towns, industry and agriculture to be 7993 GL at the Basin Plan's 2009 baseline.

Agriculture's share of that volume is difficult to readily calculate as the ABS no longer collects this data, but one pre-Basin Plan estimate says agriculture accounted for 83% of Basin surface water diversions in 2004-05.[102] Applying this metric to the MDBA

[100] Water Resource Assessment for Without Development and Baseline Conditions, MDBA 2011, p47.
[101] Southern-connected Basin includes the NSW Murrumbidgee and Murray valleys, northern Victoria and South Australian Murray catchment. It excludes the non-connected Wimmera and Lachlan river valleys.
[102] ABS Water and the Murray-Darling Basin - A Statistical Profile, 200-01 to 2005-06. https://www.abs.gov.au/ausstats/abs@.nsf/mf/4610.0.55.007#:~:text=In%202004%2D05%2C%2083%25,%2D%201%2C252%20GL%20or%2016%25. Note that the ABARES Snapshot of Australian Agriculture 2025 says agriculture accounted for 74% of Australia's water consumption on 2021-22.

modelling in 2011, agriculture in the southern connected Basin diverted an average 6635 GL (83% of 7993 GL) in the Basin Plan's 2009 baseline. Since then, an annual average 1655 GL of water has been recovered from irrigated agriculture, or 25% of the water that was available for growing food and fibre before the Basin Plan.



Annual average inflows into southern Basin = 17,016 GL[103]. As at March 2025, entitlements yielding an annual average 1655 GL have been recovered under the 2012 Basin Plan as held environmental entitlements, to increase the undiverted water for rivers, wetlands and floodplains.

If pre-Basin Plan water recovery through federal and state programs is included (annual average yield 1067 GL)[104], a total annual average allocation of 2722 GL of water or more than 30% of what used to be available to support irrigated agriculture in the southern Basin) has been redirected for environmental use since the turn of the century.

While this additional water is delivering localised improvements in environmental and ecological health, it is also reducing the volume of water to produce food in key sectors, including rice and dairy. This ultimately undermines national food security when such a large proportion of these staples are grown in the southern Basin.

Given our time and resource constraints as a regional group representing farmers and community in the NSW Murray Valley, it was not possible to do more than this high- level calculation on this policy-driven change in water availability to grow food.

[103] Water Resource Assessment for Without Development and Baseline Conditions, MDBA 2011, p47.
[104] Data available from various sources, including Snowy Savings Water Register (NSW), VEWH holdings, OEH holdings, SA environmental water holdings, MDBA table of pre-2009 water recovery.

It is essential that government undertakes a deep dive to quantify the change in water availability for growing different commodities in the Murray-Darling Basin, and the impact of upward pressure on water allocation prices on different commodities.

This analysis must also take into account seasonal extremes; in Australia's highly variable climate, annual averages mean nothing. The greatest risk to food security lies in the impact of water availability and affordability during the extremes of flash droughts and prolonged drought, as we will discuss in more detail in the next section.

Water policy red flags for national food security

The discussion paper mentions water only once, to say 'Water security is also crucial to balance risks and opportunities enabling ongoing food availability for domestic consumption and exports.'[105]

We agree.

The question is why the discussion paper provided no more information to actually inform a discussion about whether current water policy settings support a secure and affordable water supply to continue growing and processing food in the face of external shocks such as climate and geopolitical tensions?

The experience in the Murray-Darling Basin over the last 25 years demonstrates that government policy has in fact created a less secure and affordable water supply to grow food, particularly during critical dry periods and droughts when irrigated agriculture is the last sector still producing after dryland systems have gone out of production.

Under the 2012 Murray-Darling Basin Plan and earlier federal and state programs this century, a total of 4021 GL (one gigalitre (GL) equals one billion litres) in water entitlements has been recovered in the southern connected Basin through buybacks, and on- and off-farm water efficiency projects. This translates to an additional annual average allocation of 2722 GL of water available to increase flows in rivers, and across wetlands and floodplains.

In December 2023, the Federal Government passed the Restoring our Rivers Act to facilitate the recovery of another annual average 450 GL for the environment, primarily through more entitlement buybacks from farmers, despite the prospect of negligible environmental gain.[106] State reforms under consideration such as the NSW minimum

[105] National Food Security Strategy discussion paper, p10.
[106] NSW Irrigators' council submission to the NSW Parliamentary Inquiry into the Impacts of the Water Amendment (Restoring our Rivers) Act 2023 on NSW regional communities, https://www.nswic.org.au/wp-content/uploads/2025/04/Impacts-of-the-Water-Amendment-NSWIC-Submission-Final.pdf

inflows and connectivity projects promise to further reduce water availability and push up water costs for growing food.[107]

Multiple government and other reports have identified how water recovery for the environment impacts the availability and affordability of water to grow different types of food. The impacts will materialise in the next prolonged drought, and pose a very real and likely risk to national food security in the medium to long-term.

These risks need to be taken seriously, and included in the scope for developing of the National Food Security Strategy. In the immediate short term, federal and State governments must cease recovering water from farmers whether through buybacks or rules changes.

Below is a list of key findings from various government and other reports raising red flags about the impacts of water policy on food production, and therefore national food security. It is not a comprehensive list; we would expect the development of the National Food Strategy to compile all relevant impact information.

1. A 2020 ABARES analysis[108] showed that water recovery to date had increased water allocation prices by an annual average of $72/ML (megalitres, or million litres) over what they would have been otherwise. ABARES found this meant prices would be higher than $200/ML in three out of 10 years.

   ABARES modelled the impact of recovering another 450,000 ML, and found it would drive water allocation prices over $200/ML in eight out of 10 years.

   Irrigated agriculture in the southern Basin relies heavily on the allocation market to meet its annual water needs and sustain production; dairy, rice and other commodities simply cannot afford to pay allocation prices this high, this often, and stay in business.

2. A 2024 ABARES[109] study showed that an additional 225,000 ML of water recovery would increase annual average water allocation prices by a further $45/ML (10%) (on top of the $72/ML already mentioned).

   ABARES found this scenario would cause $111 million in forgone output in the southern Basin every year, on top of the $542-$764 million in forgone production that the MDBA had estimated to meet the Basin Plan's baseline 2,750,000 ML recovery target.[110] It found these modelled scenarios would hit rice and dairy profitability and production particularly hard.

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[107] *Ibid.*

[108] https://daff.ent.sirsidynix.net.au/client/en_AU/search/asset/1030661/0

[109] https://daff.ent.sirsidynix.net.au/client/en_AU/search/asset/1035841/0

[110] https://www.mdba.gov.au/sites/default/files/publications/Basin-Plan-RIS-Nov2012.pdf Lower scenario includes estimate of infrastructure investment; higher scenario is direct purchase only for 2750 GL scenario.

3. Frontier Economics' modelling of an additional 450,000 ML of water buybacks in the southern Basin[111] showed that $513 million in agricultural output would be forgone per annum. This corresponds to 95,000 ha of irrigated land being dried off across the southern Basin, with an additional 12,400 hectares of high-value horticulture dried off in drought.

   The analysis showed that had no water recovery occurred, water use in northern Victoria's Goulburn Murray Irrigation District (GMID) could be expected to be about 50% higher from 2018-19 to 2021-22. Subsequently, GMID milk production could be expected to have been about 50% higher than observed.

   This finding is supported by Dairy Australia data[112] showing that milk production has steadily declined in northern Victoria compared to the two other Victorian dairy regions in Gippsland and south-west Victoria since 2017, after annual milk production was roughly equivalent in all three regions for many years. Milk production is not increasing elsewhere in Australia to offset the shortfall.

   At the same time, northern Victorian dairy farm expenses are consistently higher, while farm operating cash, earnings before interest and tax and return on total assets are all lower than the other two Victoria dairy regions.[113]

   The impact of water policy cannot be minimised in these trends as being only one among many variables affecting production and profitability, and therefore negligible. Murray-Darling Basin dairy farms in northern Victoria/southern NSW are subject to exactly the same market, trade, labour and cost pressures as those in southern Victoria, yet are falling behind on key indicators. The only difference in their operating environment compared with the two southern regions is water policy driving up the price and reducing the security of water supply as a critical input.

4. A 2025 analysis by Ricardo for Dairy Australia[114] found additional water recovery could reduce the water available for growing food in the southern Basin by 7-16%, pushing water allocation prices up by 17-40%. The higher input costs could drive financial losses of more than $430,000 a year for some dairy farms in dry conditions. It would also reduce milk production in the Basin by 3-15%, or 60 to 270 million litres annually.

[111] https://www.water.vic.gov.au/__data/assets/pdf_file/0033/669426/social-and-economic-impacts-of-basin-plan-water-recovery-in-victoria.pdf
[112] Dairy Australia: annual In Focus reports, https://www.dairyaustralia.com.au/en/industry-reports/australian-dairy-industry-in-focus
[113] In Focus 2024, Dairy Australia, https://dair-p-001.sitecorecontenthub.cloud/api/public/content/In-Focus-Report-2024?v=22c19907
[114] Impact of water buyback on the sMDB Dairy Industry, 10 June 2025, https://australiandairyfarmers.com.au/wp-content/uploads/2025/06/Ricardo-Impact-buyback-sMDB-dairy-industry-report.pdf

5. 2020 analysis from Aither[115] suggests that in the lower Murray (Sunraysia and Riverland regions), during periods of extreme dry (similar to 2007-08), water demand from existing perennial horticulture plantings at full maturity (1247 GL) may exceed available water supply within the region (498 GL) by 60%.

   This means that in a repeat of the Millennium Drought, more high value horticulture will have to be dried off than would have been the case if the consumptive pool had not been decreased. This analysis was undertaken before the Federal Government embarked on recovering an additional 450 GL.

6. Chairs and Chief Executive Officers from SunRice, Australian Consolidated Milk, SPC Global and the Australian Dairy Products Federation representing Australian dairy manufacturers appeared at a Senate hearing for the Restoring our Rivers Bill 2023 on 1 November 2023.[116]

   They collectively made it absolutely clear that water recovery was putting food production at risk now and in the future by increasing water costs for farmers and manufacturers, in turn forcing up consumer prices for Australian-grown food, and putting Australian food manufacturing at a competitive disadvantage with cheap food imports. The implications for national food security were clear, and ignored by the Federal Government.

These studies taken together paint a very clear picture: federal and state water recovery past, present and future poses a serious ongoing risk to national food security, with dairy, rice, fruit and vegetables particularly vulnerable. Import substitution is already surging in these and other food staples[117], leaving Australia's food security even more insecure in an unstable geopolitical and climate world.

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[115] Southern Murray-Darling Basin water market, Aither, November 2020 https://www.waterregister.vic.gov.au/about/news/330-new-analysis-on-trends-and-drivers-of-water-market-prices-for-allocation

[116] Hansard: Senate Environment and Communications legislation Committee, Water Amendment (Restoring Our Rivers) Bill 2023 Inquiry, 1 November 2023 pp43-47 https://parlinfo.aph.gov.au/parlInfo/download/committees/commsen/27385/toc_pdf/Environment%20and%20Communications%20Legislation%20Committee_2023_11_01_Official.pdf;fileType=application%2Fpdf

[117] Food imports hit $40 billion: local manufacturers struggle to compete, Weekly times, 10 December 2024, https://www.weeklytimesnow.com.au/news/food-imports-hit-40-billion-local-manufacturers-struggle-to-compete/news-story/8b65a9576f4361014f4918738ae67bc5#:~:text=News-,Food%20imports%20hit%20$40%20billion:%20local%20manufacturers%20struggle%20to%20compete,it%20was%20no%20longer%20feasible".

General

Issues with production value as a food security metric

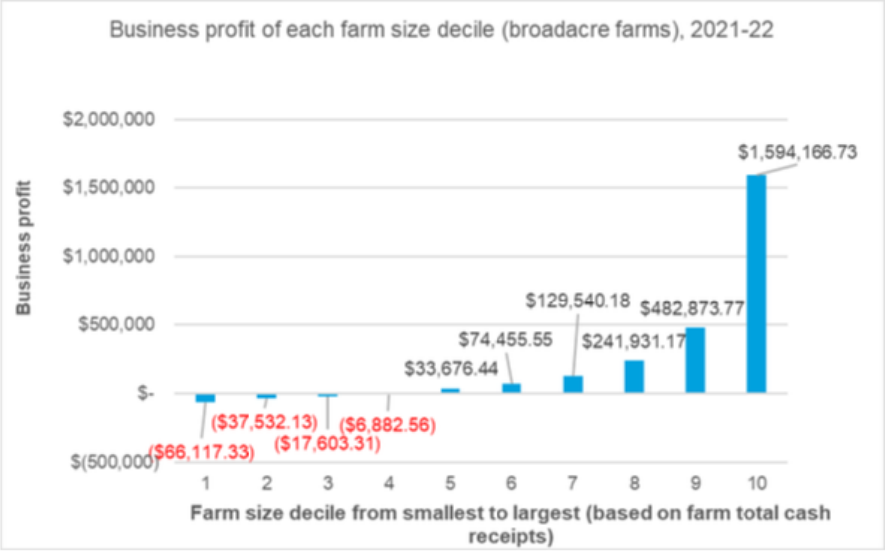
The ABARES Snapshot of Australian Agriculture 2025 asserts that Australia's agricultural production is growing, on the sole basis that its gross value has increased 34% in the past 20 years in real terms from $61.5 billion in 2004-05 to $82.4 billion in 2023-24.[118]

This metric is problematic, not least because the value has not kept pace with the 67.4% inflation over the same period.[119] This suggest that farmers' margins are being squeezed ever tighter as they absorb the rising cost of inputs with a very limited ability to pass costs onto consumers, particularly amid cost-of-living concerns.

This squeeze does not bode well for sustaining a reliable supply of Australian-grown food, when, for example, a third of Australian vegetable growers are considering leaving the industry due to an ongoing production crisis and lack of farm profitability.[120]

The bottom line is that ABARES' aggregate gross production value of commodities masks critical metrics for assessing food security, including:

- Profitability trends by commodity type broken down into deciles as per the ABARES broadacre graphic below, and also by location.



Profit by farm size, ABARES disaggregated farm performance statistics by size, all broadacre[121]

[118] ABARES snapshot of Australian Agriculture 2025, p3.
[119] https://www.rba.gov.au/calculator/financialYearDecimal.html
[120] Relentless margin squeeze threatens vegetable industry, AUSVEG 2025, https://ausveg.com.au/article/relentless-margin-squeeze-threatens-vegetable-industry-viability/p
[121] Graphic from NSW Water Administration Ministerial Corporation 2025-30 pricing proposal, 30 September 2024, p213, citing ABARES, Disaggregating farm performance statistics by size, accessible from: Disaggregating farm performance statistics by size - DAFF (agriculture.gov.au)

- Trends in annual volume of production by food type and location.
- Trends in area cultivated or grazed by commodity type and location.
- Gross Value and Production of Irrigated Agriculture by region and commodity.

This type of data collection has been undertaken in some regions (for example: by the Mallee and Goulburn-Brown Catchment Management Authorities in northern Victoria[122]).

It can be expected that the Government and its departments and agencies will say they does not have the time or resources to undertake such granular data collection and analysis. This is a cop-out. If the Government is serious about an effective national food strategy, then this work will be funded as a priority.

Export vs replacement food imports

The ABARES 2025 Snapshot of Australian Agriculture shows Australia exports only a small percentage of its fruit, nuts and rice, pigs, poultry and dairy production.[123] This indicates that the bulk of production is supplying the domestic market.

At the same time, these commodities feature in the $7 billion surge in cheap food imports over two years to reach almost $40 billion in 2023-24. Notably, recent fruit and vegetable imports jumped 24 per cent, to $3.6bn over the same period, while dairy, sugar, meat and cereal-based products all added to the increase.[124]

Increasing reliance on cheap food imports will accelerate trends in small and medium Australian farms going out of business, and therefore increasing Australia's food security vulnerability in the event of geopolitical tensions, climate and other supply chain shocks here and overseas.

We have already seen this acute risk materialise during the Covid pandemic. Two years of severe drought caused record low production of Australian rice in the southern NSW valleys in the Murray-Darling Basin. Panic buying cleared out the little Australian rice still left in storage with at least another year to go before another rice crop could be planted and harvested, assuming the drought broke and water became available.

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[122] Annual Mallee Catchment Management Authority horticulture crop report, among other information regularly published by the Mallee CMA; and the Goulburn-Broken Catchment Management Authority's Land and Water Use Mapping, https://www.gbcma.vic.gov.au/our-region/sustainable_irrigation/land-and-water-use-mapping.html

[123] ABARES snapshot of Australian Agriculture 2025, p5

[124] Food imports hit $40 billion: local manufacturers struggle to compete, Weekly times, 10 December 2024, https://www.weeklytimesnow.com.au/news/food-imports-hit-40-billion-local-manufacturers-struggle-to-compete/news-story/8b65a9576f4361014f4918738ae67bc5#:~:text=News-,Food%20imports%20hit%20$40%20billion:%20local%20manufacturers%20struggle%20to%20compete,it%20was%20no%20longer%20feasible".

Import replacement, however, proved extremely challenging: climate disruptions were also affecting production in other rice-exporting nations, while Vietnam – a major international rice exporter – suspended all exports to ensure its own national food security during the Covid crisis.

The risks of increasingly relying on import replacement for food are heightened when Australia's population is projected to grow from 26 million in 2022 to at least 34.3 million by 2071.[125] National food security relies on supporting Australian farmers and Australian-based food manufacturers to remain profitable and competitive to supply food to this growing population and push back the tide of cheap food imports.

Instead, we appear to be heading in the opposite direction when a third of Australian vegetable growers are on the brink of exiting the industry due to lack of profitability.

A similar trend is evident in the Australian dairy industry, with annual milk production trending in a steady overall decline from 9239 million litres in 2014 to 8376 million litres in 2024.[126] Declining milk production and the profitability squeeze for farmers and dairy manufacturers were key factors in Australia ceasing to be a net cheese exporter to the world in 2024.[127]

National Food Strategy discussion paper narrows the scope

The National Food Security Strategy discussion paper appears to deliberately narrow the scope of the development of the National Food Strategy by omission.

For example, it says 11 federal ministerial portfolios have a role influencing the food system and food outcomes and that the strategy will consider linkages to initiatives across government. However, the example list of initiatives is limited to food security for remote indigenous communities; preventative health; biosecurity; defence; net zero and Future Made in Australia.

This not-so-subtly frames the food security strategy's scope within these limits, and reinforces the framing in Section 3 where the whole-of-system considerations cover only climate change and sustainability; people (as in, vulnerable Australians without access to reliable, high-quality and affordable food); health and nutrition; trade and market access; and, national and regional security.

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[125] Population Projections, Australia, ABS, https://www.abs.gov.au/statistics/people/population/population-projections-australia/latest-release

[126] Annual Australian Dairy Industry In Focus reports, Dairy Australia, https://www.dairyaustralia.com.au/en/industry-reports/australian-dairy-industry-in-focus

[127] Australia no longer a net exporter of cheese, Weekly times, 6 May 2024, https://www.weeklytimesnow.com.au/dairy/australia-no-longer-a-net-exporter-of-cheese/news-story/87bcb9b82584578ac325dccb5b72387e#:~:text=The%20value%20of%20cheese%20imports,costs%20bite%20and%20imports%20surge.

Whole-of-system must also mean whole-of-government. The discussion paper should have listed all 11 portfolios, and described all initiatives with a role or an impact on Australia's food system, including water, transport, planning, taxation and energy, to name only a few.

Otherwise we will continue down the current path with different ministers pursuing policies that are counterproductive to the stated objective of ensuring Australia's national food security. Water policy is a standout example.

Actions

Immediate/short term

1. Immediately cease all federal and State water recovery in the Murray-Darling Basin, including through rules changes, and instead invest that funding in addressing the degradation drivers[128] preventing the system-wide step-change in ecological health Australian taxpayers expect for this 20-year, $13 billion reform.
2. Government policies and regulations relevant to food security must be the fourth key priority area for the development of the National Food Security Strategy. This includes water policy.
3. Broaden the scope of the development of the National Food Security Strategy to include a stocktake and analysis of all initiatives and policies across all 11 portfolios with a role influencing the food system and food outcomes.
4. Develop the National Food Security Strategy using best practice co-design principles with community and industry.
5. Detail the actions to mitigate counterproductive government policies and initiatives that are undermining farmers' capacity to grow a reliable and affordable supply of food, and putting Australia's food processing sector at a competitive disadvantage against imports.

Medium term

1. Develop national projects to store more water in the wet years for drier years.
2. Review water management and pricing at federal and state level to ensure water is maximised for food production, particularly for resilience to climate shocks.
3. Expand and update ABARES data collection, including:
    a. Trends in annual volume of production by food type and location.
    b. Trends in area cultivated or grazed by commodity type and location.

[128] Beyond Buybacks: Why We Need to More Than Just Add Water, NSWIC, January 2023, https://mcusercontent.com/c6e5c2d75b14461767c095feb/files/a5b591bb-6d1a-9475-a5e5-119d75679d5d/2023_01_31_Beyond_buybacks_Campaign.pdf

c. Profitability trends by commodity type broken down into deciles as per the broadacre graphic above on p9, and also by location.
d. Gross Value and Production of Irrigated Agriculture by region and commodity.

Long-term

1. Explore innovative solutions to increase the volume of water stored for use by farmers during dry periods and drought. For example, 100%-plus allocations in very wet periods with on-farm storages to hold this water when available.

Conclusion

Water security is indeed crucial to balancing risks and opportunities enabling ongoing food availability for domestic consumption and exports.

However, reducing the water available to grow food in the southern Murray-Darling Basin by almost a third already has reduced Australia's capacity to ensure food security in the event of sudden shocks (e.g. an economic, health, conflict or climatic crisis) or cyclical events (e.g. seasonal food insecurity).

Current water policy settings do not contribute to either stability (i.e., affordable and diverse food production through extreme events such as drought) nor sustainability (current water policy does not support sustained food production, nor environmental sustainability when legal, physical and environmental constraints in river systems limit best use of environmental water while little is invested in addressing major degradation drivers such as invasive European carp).

The Food Strategy discussion paper correctly says the complexity of the food system means that acting in one part of the system can have ramifications elsewhere, sometimes in unpredictable ways. So, it is essential that the scope of the National Food Security Strategy includes identifying counterproductive government policies across multiple portfolios.

Government policy is the greatest disruption to the secure and affordable supply of water as a critical input to the food system. Unlike economic, health, conflict or climatic crises, this threat is totally within government control.

We cannot continue with government policies and regulations that actively undermine Australian farmers and food processors capacity to deliver a safe, diverse, secure and affordable food supply to Australian households.