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BRIEFING PAPER

No more delays in the Murray-Darling Basin

Delivering the Basin Plan demands smarter spending on water recovery and constraints management

Image: Murray-Darling Junction, Flickr: Michael Storer

Victoria is dragging on its responsibilities to deliver the Basin Plan while the Morrison government is taking essential options off the table. We need smarter spending on water rights that guarantee river survival. This means voluntary open tender buybacks to recover water and constraints relaxation to deliver enough water to downstream.

SUMMARY

At this week's Ministerial Council meeting, we can expect more discussion about delaying the Basin Plan. Victoria and New South Wales are pushing for extended timelines to develop offset projects that (theoretically) enable fish and frogs to survive with less water. The impetus for these projects, however, is the offset – allowing states to dodge water recovery.

Any delay would require a legislated change to the date for 'reconciliation' – the Plan's mechanism to identify and settle the states' debts to the river in July 2024. But addressing those shortfalls requires mechanisms for water recovery. While states are maneuvering to shirk responsibilities by delaying the date of reconciliation, Minister Keith Pitt is working to remove its teeth.

When Minister Pitt released the Murray-Darling Communities Investment Package, he announced a change in approach, "putting an end to water buybacks" and "shifting the focus of the water efficiency programs to off-farm projects."

Essentially, the Minister is taking two options off the table: buying back water and on-farm projects.

This leaves the government banking on the smallest bucket of water savings to deliver 3200 GL by 2024. Off-farm projects can only deliver 13 percent of remaining water recovery targets.[1] Offset projects, the final and most scientifically dubious option, have already reached their limit.

Minister Pitt's pivot makes it impossible to deliver the Basin Plan. These limitations are entirely self-imposed.

environment victoria

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Meanwhile, the river system is still in decline. New research shows that private property is blocking natural floods from reaching the wetlands that need them. Only 21 percent of water for the environment floods over the bank to keep the floodplain healthy.[2]

The result is only 2 percent of Basin wetlands get watered each year. Some ecosystems, like blackbox eucalyptus forests, almost never get watered.

The solution is straight forward – government needs to work with private landholders to let the water flow through their properties. States have had years and $1 billion in funding to fix this problem. It is time to hurry up and get it done.

TO DELIVER THE BASIN PLAN WE NEED TO SPEND SMARTER

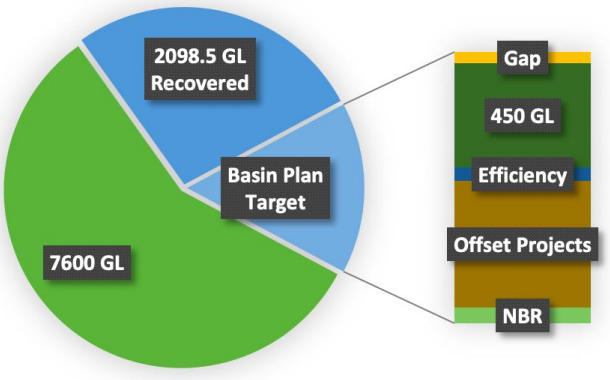
The Basin Plan has two key components: returning water to the river (water recovery) and ensuring that water can reach floodplains and wetlands (constraints relaxation).

Spending smarter requires a decisive shift in approach, choosing the most cost-effective and reliable mechanisms to deliver water. For water recovery, this means privileging open tender buybacks over efficiency projects. For nourishing the floodplain, it means privileging constraints relaxation over offset projects.

Water Recovery: Four buckets remain to be filled

The best science ahead of the Basin Plan suggested 7600 GL of what we historically took from the river needs to stay in.[3] The Plan asks for 3200 GL, less than half of what is needed to maintain a functioning ecosystem with a high chance of success.

Nearly 2100 GL have been recovered to date. With the remaining gap, there are four buckets to be filled: (1) 46.7 GL to 'bridge the gap' toward the new river-level caps on extraction; (2) 450 GL from efficiency projects; (3) 60.1 GL of other efficiency projects because (4) 605 GL of proposed offset projects have exceeded their contribution limit. The remainder is 70 GL, removed from the target following the Northern Basin Review.



Two methods for filling them taken off the table

In September, Minister Pitt announced that two recovery methods would be taken off the table: buying back water and on-farm efficiency projects.

The problem is off-farm projects can only fill 13 percent of the first three buckets. They are often six times more expensive than buybacks per megalitre of water recovered and they are far too slow – projects take up to 14 years, with an average of 5.5 years to complete.[4,1]

This is a self-imposed limitation that makes delivering the Plan impossible.

3200 GL is essential for river survival

Analysis by the MDBA showed that recovering 2750 GL would only achieve 57 percent of environmental flow targets at important indicator sites.[5] These targets are far from establishing pristine wilderness, they merely represent the maintenance of basic ecological function.

The full implementation of the Basin Plan, recovering 3200 GL and relaxing constraints on the delivery of water, would achieve 94 percent of flow indicators on the Murray. The difference of 450 GL results in substantial gains for the area of wetlands and flood-dependent vegetation inundated, increasing from 45,000 to 80,000 ha – an area 1.6 times the size of Wilson's Prom in Victoria.[6]

On-farm efficiency projects are expensive and risky

Most funding in the Basin, approximately $4 billion, has been directed towards water-saving infrastructure. On average, irrigators receive subsidies worth $400,000.[7]

These large payments, alongside the re-prioritisation of infrastructure subsidies over buybacks, raise several issues. The program has exhibited a strong bias toward corporate agribusinesses, which are 21 times more likely to receive funding than family farms.[8]

The government claims it has acquired 700 GL through these projects, however there are no adequate site-level measurements to confirm changes in stream flow. Some studies suggest the projects may have only delivered 70 GL of observable flows.[9]

The projects are also the most expensive way to recover water, nearly three times higher than buying it directly.[8] If actual water delivered is as low as studies suggest, they could be 25 times more expensive.[9]

Relaxing constraints delivers more value for water recovered

Reducing system constraints gives water managers more flexibility to send water where it needs to go while modernising river management. It increases the total floodplain area that can be kept healthy with managed flows.

Taxpayers have already invested in water to nourish floodplains, but we need to address rules about how dams operate and physical constraints like low-lying bridges that prevent water from getting there.

Research from the Institute for Water Futures, released in November 2020, identified that only 2 percent of Basin wetlands get the water they need each year because of

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system constraints.[2] Getting water into hard-to-reach ecosystems requires big floods, with water needing to pass over private property.

Agreements need to be reached with over 3,000 landholders to let water through. It's difficult work, but states have had years – and $1 billion – to deliver. This is essential for the success of the Basin Plan.

Offset projects water a smaller area at 10 times the price

The Victorian Murray Floodplain Restoration Project (VMFRP) consists of 9 subsidiary projects that have been included as offset (supply) measures under the Sustainable Diversion Limit Adjustment Mechanism (SDLAM) in the Basin Plan.

They are infrastructure projects involving regulators, levee banks and pump stations intended to water small areas of forest and wetlands. The primary purpose is to reduce the environmental water recovery target under the Basin Plan – offsetting around 40 GL.

The VMFRP is a $320 million project intended to water 14,000 ha of floodplain.[10] This is far more expensive than the constraints projects, which propose to benefit 375,000 ha for $864 million.[2] VMFRP offset projects are nearly ten times more expensive, costing an additional $20,000 per hectare.

With 605 GL set aside for extraction elsewhere in the system, there are consequences for the majority of floodplain that is not watered. There will be broader risks, such as increasing blackwater events, native fish stranding, increased carp and weed infestations and salinity impacts. None of the projects fit the criteria proposed by the Water Act and Basin Plan.[11]

ACTIONS IN THE NORTHERN BASIN ARE UNDERMINING THE PLAN

The water recovery task has largely been delivered by the southern Basin, with reductions in northern river contributing only 16 percent of the target.[12] This is particularly notable as the Darling/Baaka's historic contribution to total flow at the South Australian border was 39-59 percent.

NSW floodplain harvesting proposal would be disastrous

New research shows that there has been a 140 percent increase in the capacity of on-farm storages since 1994.[13] This additional storage volume indicates an increase in floodplain take – and likely an excessive breach of the Cap.

While monitoring, measuring and licensing of floodplain harvesting is long overdue, the key question will be whether NSW can demonstrate that new licenses will be issued within the Cap.

Current proposals suggest extremely generous accounting, allowing license holders to take five to six times in excess of their licensed volumes.[13] The proposal defines this principle as 'carryover' but its definition differs vastly from the southern Basin's use of the term. Rather than parking unused water that irrigators have been allocated, northern Basin irrigators would effectively be owed an accumulating debt from the river – of water that has not yet flowed.

This sets the groundwork for the ongoing exploitation of first flush events as well as environmental water recovered at public expense.

Restoring healthy flows through the Darling/Baaka – and increasing reliability on the Murray by ensuring northern Basin flows reach the South Australian border – will require that NSW institutes licensing with reasonable volumes within the Cap. It also demands the restoration of rigor and integrity to the Cap accreditation process.

New dams will undermine environmental outcomes

First announced at the height of last year's drought, several dam proposals are being fast-tracked in NSW: the Wyangala, Dungowan, Gin Gin and Mole River projects.

The proposals are moving through planning processes without complete business cases or environmental impact statements, likely overestimating benefits and vastly underestimating expenses and impacts to cultural heritage.

The Wyangala project on the Lachlan River proposes to raise the dam wall by 10 meters. This is predicted to provide 21.5 GL annual average additional water for the consumptive pool at an exorbitant cost.

The consequences would be substantial, undermining environmental outcomes downstream. With a higher dam wall, spills during large flood events would be less common. This is particularly damaging as many of the wetlands and floodplains hosting bird breeding can only be reached with flows released from the spillway in large floods.

ENDNOTES

1 Australian Government, First Review of the Water for the Environment Special Account (2020)

2 Chen, Y., M. J. Colloff, A. Lukasiewicz, and J. Pittock. in press. 'A trickle, not a flood: Environmental watering in the Murray-Darling Basin, Australia'. (2020)

3 MDBA, Guide to the proposed Basin Plan – Technical Background (2010)

4 https://www.premier.vic.gov.au/consultation-efficiency-projects

5 MDBA, Hydrologic modelling to inform the proposed Basin Plan – methods and results (2012)

6 MDBA, Hydrologic modelling of the relaxed operational constraints in the southern connected basin (2012)

7 R. Quentin Grafton & John Williams, Rent-seeking behaviour and regulatory capture in the Murray-Darling Basin (2020)

8 Wheeler & Carmody, The rebound effect on water extraction from subsidising irrigation infrastructure in Australia (2020)

9 John Williams et al., Missing in action: possible effects of water recovery on stream and river flows in the Murray–Darling Basin (2019)

10 VIC Murray Floodplain Restoration Project SDLAM 2020 via https://getinvolved.mdba.gov.au/54802/widgets/284866/documents/144157

11 Wentworth Group, Requirements of SDL adjustment projects to ensure they are consistent with the Water Act 2007 (2018)

12 https://www.agriculture.gov.au/water/mdb/progress-recovery/progress-of-water-recovery

13 https://www.abc.net.au/news/rural/2020-11-19/flood-plain-harvesting-nsw-inceased-into-on-farm-storages/12886642

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