

SUBMISSION TO SENATE INQUIRY ON WATER AMENDMENT (RESTORING OUR RIVERS) BILL 2023 {PROVISIONS}

From: Mrs Jan Beer,

Representative Upper Goulburn River
Catchment Association

Under the Water Amendment as introduced into legislation by Minister Plibersek the Albanese Government will rip the heart out of rural communities in the Southern Connected Basin and destroy our nation's food security. The Labor Government, Greens and some Independents fail to understand that clawing back more water from the productive consumptive pool will lead to the collapse of many rural towns that currently provide the many processing plants and support industries for the agricultural industry which is the backbone of Australia.

The Albanese Government have made amendments to:

- Enable the purchase or buyback of the additional 450GL upwater.
- Remove the cap on the 1500GL cap to enable purchase of the remaining 272 GL
- Speed up implementation of "constraints relaxation" projects by putting in place a constraints roadmap
- Abolish the socio-economic test set out in section 7.17 of the Basin Plan.
- Enable the \$1.3 billion that is currently left in the Water for the Environment Special Act (WESA) is spent only on projects that would substantially enhance environmental outcomes in the Basin.
- Develop an implementation roadmap for constraints projects There are impediments ('constraints') to delivering environmental water to high value floodplain forests and wetlands across the Basin. The Basin Plan recognises the importance of getting water to these floodplain assets and establishes a framework to remove these constraints.

BACKGROUND

The Basin Plan came into being on the end of the Millenium Drought, which I might add was followed by major floods in 2010-2011. This occurred again after the 2017-2019 drought which was followed by even bigger floods in 3 consecutive years 2020, 2021 and 2022.

This same scenario has been repeated again and again in the Australia we know from white settlement.

We are a land of drought and flooding rains. History shows that this cycle has been repeated over and over again and nothing man can do can prevent it.

During the very severe 12-year Millenium Drought a very adaptable management system ensured that 3 of the 4 major river systems, the Murray, Goulburn and Murrumbidgee Rivers remained flowing, which was an amazing achievement.

The MDB Plan was initiated by the Howard Government in an attempt to gain the environmental green vote to win the upcoming election.

From the inception of the Basin Plan continuing to the present day, the Plan has been used as a political tool by all sides of government to gain control of marginal seats.

The implementation of the Basin Plan was based on politicians' simplistic view that water had been mismanaged and over allocated, completely disregarding the impact that the worst and longest drought in our history had on reduced basin inflows.

There has been a mistaken political view that if water was controlled and owned by the Government it could be better managed.

The Basin Plan has not been developed and managed as a whole connected system. As the Inspector General of the Murray Darling Basin stated there is still currently 61% overtake in the Northern Basin, yet the Albanese Government instead of addressing the plight of the Darling-Baaka River, continues to attempt to remove more water from the consumptive productive pool of water in the Southern Basin.

Further recovery of water from the Southern Basin cannot physically change the appalling environmental condition of the Lower Darling or improve the lot of its communities.

There has always been, even prior to the Basin Plan a set water Sharing Plan, whereby irrigation allocations have been significantly reduced in dry periods. **Irrigation has always been last on the list when allocations are made.**

Allocations are made in the following order:

- High security reserves kept in storages for environmental purposes
- Critical human needs- rural and urban
- State water allocations
- Conveyance reserves
- Conveyance water to SA border, SA loss and dilution, storage loss

AND ONLY THEN IS IRRIGATION ALLOCATION MADE.

There has always been the ability to reduce or completely stop irrigation allocations in drier or drought years, which is what occurs during drought periods. Our water storages also allow us to spread water usage to cover our needs during dry periods.

There is a political misconception that the environmental water can be used to avoid drought in selected sites. Attempting to water and maintain wetlands during long drought periods is totally unrealistic.

Mother Nature is all powerful and all man can do is fiddle round the edges.

Under the current system of allocations our environment is very well protected.

I would like to make the following points, which I will enlarge on, in my submission:

1. The proposal under the amended legislation to buy back vast quantities of water for the environment is simply not economically sound.
2. The further large volumes being sought specifically for the environment are not feasible and cannot be safely stored in the existing upstream storages.
3. Constraints “relaxation” under the Constraints Management Strategy is neither viable or technically feasible and cannot be fast-tracked via a “roadmap” due to the large number of affected landholders (in excess of 3,000) that need to be consulted.
4. Deliverability is the elephant in the room. Politicians and bureaucrats refuse to acknowledge that the large proposed volumes for downstream environmental targets are not achievable without creating massive environmental, social and economic impacts.
5. The 450GL cannot achieve the “enhanced environmental outcomes”
6. The purchase of further water and attempted delivery of this water will impose massive environmental, social and economic ramifications

Point 1

The proposal under the amended legislation to buy back vast quantities of water for the environment is simply not economically sound.

An investment on the scale of \$13 billion should have required an analysis of the financial investment and actual ability to deliver the water. We have never seen an extensive and detailed cost/benefit analysis which quantifies the environmental, private and public benefits against the environmental, social and economic costs.

Instead, we have seen \$13 billion dropped into a money trough, which has fed a constant supply of consultants, consultants and more consultants, bureaucrats, modellers, scientists who have all soldiered away for 13 years attempting to make the plan fit idealistic and aspirational theories.

We are now at the “pointy end” of the plan where the jigsaw puzzle was all supposed to fit together and be finished “in full and on time.” This was never going to happen, and now that it is obvious even to politicians and bureaucrats that these ‘blue sky-thinking’ theories and assumptions cannot come to fruition and are unrealistic, it is the irrigator, food and fibre producer, rural communities, regional processors, agricultural contractors and support industries, machinery and vehicle franchises, rural schools, shops, cafes that will be left to suffer.

As Professor Peter Gell, (Water Research Network, Faculty of Science and Technology, Federation University Australian, Victoria) states, *“There is a clear risk that the ecological response of the system to environmental watering will come up well short of expectations commensurate with the considerable government investment. There is also a clear risk that the ecological benefits will not offset the socioeconomic costs to regional communities who are expected to forego valuable water rights.” (Prospects for Ecological Recovery in Wetlands Limited by Muddy Murray Flows)*

The 450GL would come from the Goulburn Murray Irrigation District and southern Murray system as this is where the high security water is held.

Currently 83% of water recovered under the Basin Plan for environmental flows is actually coming from the Southern Connected System, particularly NSW Murray and northern Victoria (MDBA)

The removal of 450GL from the Goulburn Murray Irrigation District (GMID) will cruel irrigators and destroy the viability of the irrigation system, which now has less than half the available water it used to have and is destined to have left only one third of its high security water.

We will see the collapse of the Goulburn Murray Irrigation District and with it the many dependent regional towns and communities. It cannot be stated strongly enough the devastating impacts that will be wrought on regional Victoria by the Albanese Government's ill-informed decision.

In excess of \$2.5 Billion has already been spent on Foodbowl Modernisation, through the Connections Projects Round 1 and 2 and numerous other water saving schemes. These projects were funded by both Federal and State governments.

Why would you want to put this expenditure and investment at risk? Australian taxpayer's dollars completely wasted and our nation's food security endangered.

The Goulburn Murray Water submission Senate Inquiry 2nd Feb 2016 stated: "We consider that further water recovery by purchase of entitlements or proposed EMP (Efficiency Measures Projects) measures to recover 100% of water savings are detrimental to the communities and economy of Northern Victoria and should not proceed."

The cumulative effects of drought, floods, the buy-back of water, free trade water market, reduced water entitlements have forever and permanently changed our agriculture sector and once a certain level, is reached, industries and communities begin to collapse.

If the Federal Water Minister proceeds to recover through buy-backs the remaining shortfall of water, that has not yet been recovered via the 450GL and Sustainable Diversion Limits projects, there will be major social and economic upheaval in country regions in the southern connected basin.

It should be absolutely mandatory that a detailed cost/benefit analysis be undertaken before the buyback or purchase of any further water, seeing that the cost to acquire even the 450GL would be in the billions of dollars.

Point 2

The further large volumes being sought specifically for the environment are not feasible and cannot be safely stored in the existing upstream storages.

The Murray Darling Basin environmental water holders already hold **4622.5GL of water entitlements**. The MDBA Water Take Report is the point of truth. This document published by the MDBA in September 2022 is the bible of held environmental water- see link www.mdba.gov.au/sites/default/files/publications/annual-water-take-report-2020-21.pdf

This acquired water is far in excess of the 2750GL agreed benchmark plus the 450GL additional water volume that was stated as needed under the Basin Plan.

If the amendment provisions enable the Water Minister to procure the following water -

- 49GL Bridge the Gap
- 320GL Sustainable Diversion Limit shortfall (estimate anywhere between 290- 340GL),
- 450GL upwater
- 49GL + 450GL+ 320GL =814GLTAAAY but really 1025GL actual water entitlements

The above figures are Long Term Average Annual Yield (LTAAY), that is calculated across all the different water types to give a common denominator figure. The 814GL would mean 1025GL of actual water entitlements would have to be purchased. The State and Commonwealth environmental water holders would then own 5647.5GL or 32.5% of all entitlements on issue.

Recovering further water prior to finalising the feasibility of constraints is like putting the cart before the horse. All water recovered in the Southern Connected Basin would be stored in the 3 main upstream storages, that is, Eildon, Dartmouth and Hume. This means environmental water holders are holding water in storages, that river operators cannot deliver and are exacerbating major flooding to all river floodplain communities.

This is exactly what happened in the October 2022 major flood. We had Eildon Weir full, with one – third of the weir’s capacity being environmental water and carryover water of 840GL constituting 25% of the weir’s capacity. We had a significant rain event and consequently a catastrophic major flood, that destroyed farmland, businesses, livestock, roads, crops worth billions of dollars and I might add the mental health of many people.

The fact is that Basin Plan policies have completely turned water ownership and usage on its head, exacerbating flooding.

Prior to the Basin Plan, irrigators would on average use 30% annually of the weir’s capacity, starting according to the season, in late Winter, Spring. Now irrigators have far less water and have changed their farm management to start irrigating in early Autumn.

The environment currently holds 4622GL in actual entitlements, which is 26.6% of total entitlement volume on issue. The government has disproportionately bought high security licences over lower reliability entitlements so therefore has a higher share of the actual water, as due to basin plan policies low security allocations are rarely made.

In the Goulburn system there has only been one allocation of low security water since 1997. Many irrigators and particularly dairy farmers who own low security water shares but cannot carry over their own water, now find they cannot get an allocation for low security water, despite storages being 100% full.

There are 700,000 ML of low security water shares owned in Northern Victoria, which cannot be used for food production because carryover water owned by large volume investors and the environment now takes up space in the storages, previously used by low security water shares.

Environmental water holders have not used their entire allocation in any one season, with the Commonwealth Environmental Water Holder stating they use approximately 70% of their water annually, hence there is also a large volume of carryover taking up air space.

Point 3

Constraints “relaxation” under the Constraints Management Strategy is neither viable nor technically feasible and cannot be fast-tracked via a “roadmap” due to the large number of affected landholders (in excess of 3,000) that need to be consulted.

Minister Plibersek in introducing legislation amendments to allow the buyback of the 450GL has completely ‘jumped the gun’. To purchase any further water prior to understanding whether constraints relaxation can be achieved is reckless and foolhardy in the extreme considering the multi-billion-dollar cost of buybacks.

What does constraints and “relaxing” constraints mean.

The terminology “relaxing constraints” means that man-made manipulated environmental flood flows will be used to deliver set water volume targets to selected wetlands, forests, icon sites, by allowing water to flow over both private freehold property and public land, across roads, tracks, bridges, levees, drains, infrastructure and buildings such as in public parks, caravan parks. These are all called the “constraints”.

The operation and management of these flows will be in the hands of the river operators, that is Goulburn Murray Water (GMW) in Victoria and the Murray Darling Basin Authority in NSW.

To allow this to occur private property owners must give permission allowing flows to inundate their land or provide flood easements to the state. This is known as “relaxing” constraints.

In Victoria legal liability rests with the river operators, GMW.

The decision to proceed with constraints projects rests with the Basin States.

Minister Lisa Neville stated and it is reiterated by her successor, Victorian Water Minister Harriet Shing that:

- No flooding of private property will occur without landowner permission
- No easements will be compulsorily acquired
- All flows to be in-channel

Statement Regarding the Proposed Creation of Easements over Private Property in relation to the Murray Darling Basin Plan Constraints Management Strategy

From the Upper Goulburn River Catchment Association (UGRCA) 15 September 2015

The UGRCA, representing many concerned landholders along the Goulburn River and its tributaries around Yea/Molesworth/Alexandra/Rubicon would like to make a clear statement in relation to the creation of easements across private property, as proposed by the MDBA’s Constraints Management Strategy.

It is clear to the UGRCA that landholders, whose properties will be inundated by environmental flood flows, as proposed by the MDBA, in order to deliver man-made manipulated flood flows to the Lower

Goulburn, Murray and South Australia, **are NOT prepared to negotiate** the creation of flood easements over our properties.

All our UGRCA land holders know that the MDBA floods, will cause an untenable loss in productivity of our farms, significant loss of amenity, increased major flooding risk and will lead to a serious devaluation of our properties. The Goulburn River flats in our area are some of the most productive and valuable farming land in the country. Land holders will not stand by and see their equity eroded by man-made floods.

An easement is not mitigation. It simply attempts to absolve the river operator, Goulburn Murray Water and the Goulburn Broken Catchment Authority from responsibility and liability from third party impacts.

Given the in-channel capacity of the Goulburn River at Molesworth is 9,500 ML per day, and the proposed MDBA environmental flood flows of 20,000ML/day are over double the bank full volume, landowners in the Upper Goulburn Catchment stand to suffer very severe and significant inundation of their properties on a continuing basis, and no amount of compensation can mitigate this.

We are resolute in our position that the creation of flood easements will not be negotiated.

End of Statement.

With regard to the 450GL, Victoria has unequivocally stated it will not allow any further water to be removed from their state's supply due to it causing economic hardship.

The following are factual statements and evidence of the inability to deliver the proposed man-made environmental flood flows downstream to South Australia and achieve the proposed 'enhanced environmental objectives' under the basin plan legislation:

The Victorian Government recognises that "any relaxation of constraints will pose third party flooding related risks which can impact public and private land, infrastructure, stock and people."

The decision to proceed with a Constraint Management Strategy, in order to deliver greater volumes of environmental water downstream, was based on no evidence whatsoever that the channel restrictions in the 4 major river systems or the multitude of other constraints throughout the basin could, in actual fact, be 'relaxed' and the proposed flows actually delivered. The document Hydrologic Modelling of Relaxation of Operational Constraints in the Southern Connected System PAGE xiii states:

"Undertaking detailed assessments an analysis to identify whether any of the constraints tested in this study could actually be relaxed was not within the scope of this report."

This was the basis on which it was decided to approve the Constraints Strategy.

The proposed man-made flood flows of 80,000ML/day to the SA border **CAN NOT actually be delivered.**

The MDBA Constraints Modelling Review Report by NSW and Victorian Ministers' Independent Expert Panel 2018 Wilson Report.

“...irrespective of improvements in real time river operation models, they will still require weather forecasts as an input, the accuracy of which falls away beyond several days. Given that it takes one to two months for water to flow through the length of the Murray system, a degree of uncertainty and residual risk will remain. This limits the confidence that can be achieved in real time river operating models. The Panel has been advised that given these uncertainties, flows of 80,000ML/day at the South Australian border will occur when there is a coincidence of large rainfall and ‘natural’ flow events in the Murray or its key tributaries, but river operators will not be creating ‘managed’ 80,000ML/day flows at the South Australian border.”

As for the Constraints Management Strategy, the MDBA surely, cannot believe they have the ability to manipulate flows from the upstream catchments in at least 3 of the 4 main river systems, coincide releases from major dams, ‘piggy-back” them on top of high tributary flows, deliver these into the major rivers downstream so that they combine to deliver flows over the SA border of specifically 60,000-80,000ML/day for a sustained period of 5-6 weeks and keep the Murray Mouth open 95% of time by coinciding these flows with a strong outgoing tide!

The MDB Plan policy of Enhanced Environmental Water Delivery (EEWD) to be used hand in hand with the Constraints ‘relaxation’ strategy is fraught with danger particularly for landowners, towns and communities in the upper catchments close to the storages.

This involves releasing or “piggy-backing” environmental flows from say Eildon Weir 6-7 days in advance of a forecast high natural unregulated tributary flow in an attempt to increase either the flow peak and/or duration of the event to attain the proposed target volume downstream. The upper Goulburn catchment with its steep topography and flashy, fast flowing tributaries makes this strategy incredibly dangerous for landowners and greatly increases the likelihood of flooding.

As GMW is a state-owned entity, liability reverts to the Victorian Government. Doubtless GMW would be required to meet any liability and would have to pass increased charges to GMW’s customer shareholders, that is the irrigators, if it was to meet its responsibility.

GMW have stated they will not see liability risks transferred to its customers.

The MDBA have acknowledged that GMW would be the responsible entity stating “the legal liability would rest with the relevant river operator. In the Goulburn Valley it would be Goulburn Murray Water.”

The MDBA in devising the Constraints Management Strategy used the core concept of the desktop Theory of Constraints normally used in business management or manufacturing, whereby a single constraint if removed then improves total throughput.

The reality is, in an ancient river system there are a myriad of constraints or limitations including many channel chokes and extremely low gradient streams that slowly meander their way through flat, arid country. For example, at Albury the stream gradient of the Murray is 125mm/1km(5inches/km) down to Wentworth, which is a mere 33 metres above sea level.

When the constraints theory is applied to river systems, the hundreds of constraints within each river reach and the vagaries of nature, it is obvious the concept is simply an impossibility.

The constraints “relaxation” policy cannot be fast-tracked via a roadmap as there are well in excess of 3,000 private landholders in the Southern Connected Basin who must be consulted regarding proposed environmental flows, the extent of their property that would be inundated identified and possible mitigation measures discussed with landowners. This is not a quick process.

Point 4

Deliverability is the elephant in the room. Politicians and bureaucrats refuse to acknowledge that the large proposed volumes for downstream environmental targets are not achievable without creating massive environmental, social and economic impacts.

Deliverability is the elephant in room that must be acknowledged. The environmental water holders have never delivered their full allocation in any one year. Constraints “relaxation” or man-made manipulated environmental flood flows on a constant basis in the Goulburn and Murray rivers are not acceptable to landowners due to the economic, social and environmental impacts. The latest hydrological modelling also shows that proposed ‘relaxed constraints’ flows downstream of Torrumbarry have little to no effect.

Major flood level flows are necessary to achieve flows of 80,000ML at the South Australian border and flows similar to the catastrophic 2016 and 2022 floods in the 4 major river systems are required to keep the Murray Mouth open without dredging for a number of months.

The MDBA have always maintained they have used the best available science to progress the Basin Plan. I and many other “citizen scientists” disagree as even common sense will tell you that natural physical constraints of our vast country have not been taken into account.

We are the flattest, driest inhabited continent on earth, meaning there are massive attenuation and evaporation losses as flows so slowly wend their way towards the Murray Mouth and Southern Ocean. It takes a release of approximately 3 megalitres at Eildon to get 1 megalitre at Mildura. There is no manner of mitigating these losses in our hot, arid, flat land.

Here are the reasons why vast volumes of water will never reach the Lower Lakes or Southern Ocean, making it impossible to keep the Murray Mouth open 95% of time. All tributaries worthy of naming, are in the upper reaches of our main rivers The Darling once it leaves Queensland has virtually no tributaries. The Murray from the point of confluence of the Darling has no tributaries The Goulburn below Shepparton has virtually no tributaries. The Murray at Albury takes 4 weeks to reach South Australia. The Murray at the confluence with the Goulburn River is 1992 kms. from the Murray Mouth and a mere 124.9 metres above sea level. Mildura is still 878kms from the Murray Mouth but only 34.5 metres above sea level. The Darling River at the Queensland border is about 3,218 river kilometres from the sea and only 500 metres above sea level. Once the Murray and Darling Rivers leave the Great Dividing Range their stream bed gradients are so low that their waters flow at a phenomenally low rate. After wandering 1350 river miles to Wentworth, the Darling

River flows into the Murray at 100 feet above sea level. Throughout that distance it falls only 3 and ½ inches (90mm) to the mile At Albury the stream gradient of the Murray is 125mm/km (5 ins.) down

to Wentworth, which is a mere 33 metres above sea level for the last 100 kms. in South Australia, the stream gradient is only 12mm./km (1/2in.) - (Rivers of History) In 2016, peak flood flows in the Murray River at Tocumwal, reached a huge 204,000ML/day, yet with attenuation and evaporation as flows slowly wound their way seaward, less than 50% actually reached the South Australian border.

The latest hydrological modelling (2022-2023) for the Victorian Constraints Measures Project shows the futility of attempting to deliver these proposed environmental flows, through flat, arid country via rivers that have an extremely low gradient and where large volumes are lost through attenuation and evaporation. The excerpts below from that modelling, clearly show the impossibility of delivering proposed environmental targets downstream to South Australia to achieve “enhanced environmental outcomes”. Purely “blue-sky thinking” which is impractical, unrealistic and certainly not feasible

“The modelling has shown that the degree to which peak flows in the Murray downstream of the Barmah Choke are influenced by constraints relaxation depends on whether environmental water deliveries along the Goulburn River and River Murray are aligned with each other and inflows from other tributaries. In general, the influence of constraint relaxation on peak flow magnitudes and frequencies reduces moving downstream.”

“The beneficial environmental impacts of relaxing constraints in the mid-Murray and Goulburn tend to decrease with increasing distance downstream of the Barmah Choke. Modelling suggests relaxing constraints will result in no change in the frequency of environmentally desirable higher flow rates in the Murray River at the South Australian border under all relaxed constraints scenarios tested in this stage of the Victorian CMP. “

“The MDBA modelling suggests the impact of relaxing constraints at the South Australian border for the higher flow levels (greater than 60,000 ML/d) is minimal and may reduce peak flow events compared to current operations due to the higher use of the environmental water portfolio resulting in reduced spills.”

“This reduction at the higher flow levels reflects the geographical nature of the mid-Murray section and the Edward-Wakool section where water needs to travel through the flat and wide landscapes once water goes beyond in-channel pathways. Therefore, the peak of events is largely attenuated by the time it reaches to Wakool Junction. It also shows difficulties to influence the peak of events just by releasing environmental water from upper storages.”

This latest 2022-2023 modelling and documentation clearly shows any benefits of “relaxing constraints”, that is flooding private property in order to deliver greater volumes of environmental water, are totally minimal and futile and can never achieve the aspirational ‘enhanced environmental outcomes.’

It is totally incorrect that only ‘*minor over bank flows*’ would be required to achieve proposed environmental flows downstream.

It is well documented that to achieve the MDBA proposed flows of 80,000ML/day at the SA. border, a combined upstream peak from the main river systems of 160,000ML/day is required.

The 2016 floods gave clear evidence of the damage and impacts that would ensue if 80,000ML/day was to be delivered as part of the ‘relaxed’ constraints strategy.

As a result of major flooding in September/ October 2016 in the Murrumbidgee, Murray and Goulburn, flows to South Australia were of the volume, or in excess of the volume, being proposed by the MDBA under the Constraints Management Strategy, that is, in excess of 60,000ML/day for over 5 weeks at the border. Flows of 60,000ML/day over the South Australian border commenced on 11th November 2016, peaked at 94,246ML/day on 30th November and were then in excess of 65,000ML/day till 18th December 2016. These flows still did not clear the Murray mouth for more than 3 weeks.

Tributaries in the upper catchment, the Acheron, Taggerty, Rubicon, Yea Rivers and King Parrot Creek are fast flowing streams rising out of the mountains where average rainfall is 1400-2,000mm/yr. Localised run-off from the steep surrounding hills can be very significant with streams rising to overbank flows in just a few hours.

“There certainly are issues in the Goulburn, because it is a system where there are a lot of tributaries flowing into the main river, and not all of those tributaries are monitored for flow. There is a lot of experience in that part of the country that where you get unexpected large rainfall, for example, you get dramatic changes in flow rates. There is a level of anxiety about how the system works in practice. So, there is a legitimate concern amongst those people that we do not exacerbate those sorts of issues, which is why I am particularly conservative in systems like the Goulburn where you have that sort of geographical arrangement.” David Papps (CEWH) Senate Inquiry 5th Feb. 2016

The Constraints projects and delivery of the 450GL together with the Enhanced Environmental Water Delivery (EEWD) project are all inextricably intertwined and interdependent.

There is a lack basin wide of perfect forecasting of rainfall and real-time run-off figures. “The availability of, and access to, up to date rainfall and river flow/level data is critical for flood forecasting in rapidly reacting river catchments. Without this data, the BoM is limited in its ability to fit and then utilise a rainfall runoff model for the catchment and limits its ability to provide timely and accurate flood predictions.” (The Comrie Report December 2011 Page 49)

There is absolutely no point in Minister Plibersek or the Federal Government pushing to procure the 450GL, if that water cannot be delivered to the end of the system without creating major flooding, which causes massive economic loss and environmental damage.

Point 5

The 450GL cannot achieve the “enhanced environmental outcomes”

The 450GL is to be delivered to South Australia in an attempt to achieve the aspirational “enhanced environmental outcomes”

Ms Stanley, ALP Member for Werriwa and Government Whip in a speech on the amended legislation in Parliament stated- *“We have also insisted that the 450 gigalitres of additional water—which was the basis for South Australia agreeing to join the plan—be delivered.”*

It is stated in the Explanatory Memorandum that the amended legislation would ensure that the WESA funds would only be spent on projects with the substantial aim of enhancing environmental outcomes.

The Water for the Environment Special Act Part 2AA 86AA describes these “enhanced environmental objectives” as-

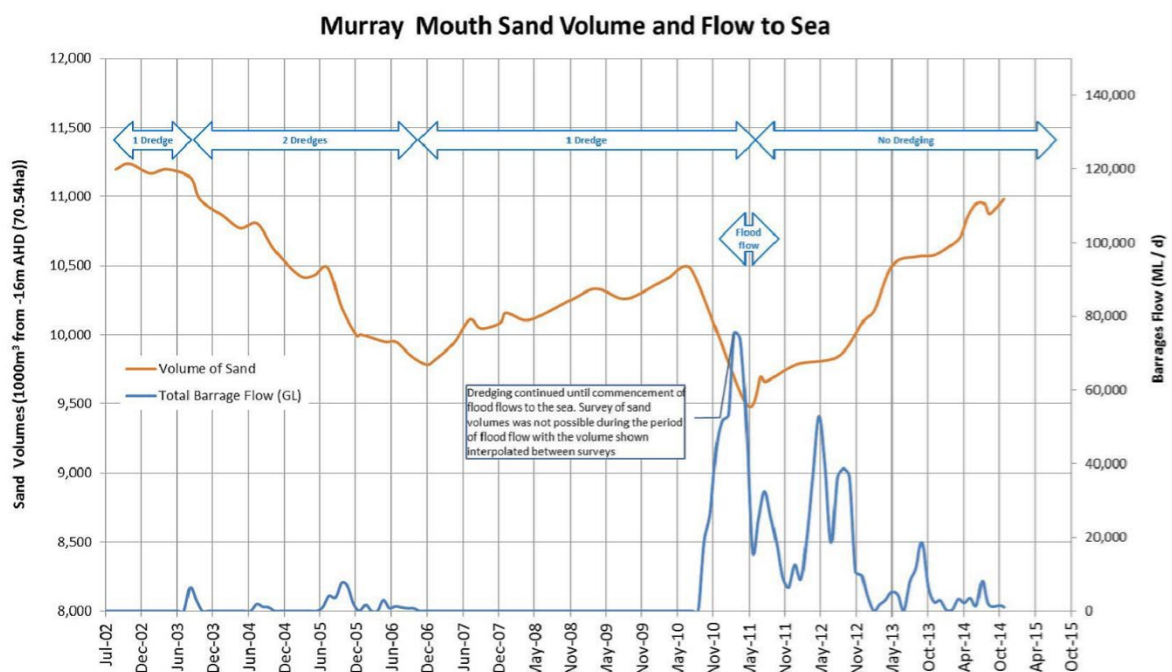
- further reducing salinity levels in the Coorong and Lower Lakes
- keeping water levels in the Lower Lakes above 0.4 metres Australian Height Datum for 95% of the time
- to provide additional flows to the Coorong, and to prevent acidification, acid drainage and riverbank collapse below Lock 1
- ensuring the mouth of the River Murray is open without the need for dredging in at least 95% of years, with flows every year through the Murray Mouth Barrages;
- discharging 2 million tonnes of salt per year from the Murray-Darling Basin as a long-term average;
- further increasing flows to the Coorong through the Murray Mouth Barrages, and supporting fish migration
- in conjunction with removing or easing constraints provide environmental watering to an additional 35,000 hectares of floodplains in the River Murray System

It has already been shown that many of the above objectives cannot be achieved as shown in the evidence below.

1. Modelling of Relaxation of Operational Constraints in the Southern Connected System Hydrologic Modelling (HMROSCS) states - *“Modelling indicated that relaxing constraints would provide relatively subtle changes to outcomes for the Coorong, Lower Lakes and Murray Mouth (CLLMM).”*
The document states there were only “minor scale changes to the CLLMM indicators in modelling in the relaxed constraints scenario.” *The 3,200GL option showed “marginal improvements in some outcomes; but no significant improvement for mid- and high-level floodplain environments in the southern Basin. This was because river operating constraints were found to limit the ability to deliver sufficiently high flows to inundate mid- to high-elevation floodplains; thus, outcomes such as watering vegetation communities like river red gum and black box woodland on these floodplains was unachievable, regardless of the SDL volume. Within the boundaries of these constraints and the consideration of social and economic impacts, MDBA therefore proposed an SDL reflecting a 2,750 GL/y reduction in diversions.”*
2. The **Murray–Darling Basin Authority Review of the Environmental Watering Plan March 2021** www.mdba.gov.au/sites/default/files/pubs/review-of-environmental-watering-plan-march-2021_0.PDF PAGE 17 states, (2)(d) *condition of the Coorong and Lower Lakes ecosystems and Murray Mouth opening regime. Murray Mouth and Coorong targets being met through Basin Plan mechanisms alone was flagged as potentially unachievable under a changing climate.*
Keeping the Murray Mouth open 95% of time without dredging and achieving ‘enhanced environmental outcomes’ is not possible and the MDBA have now admitted as much.

3. Mr Dreverman (previous executive MDBA): *“There are two parts. You need large flows—probably in excess of 75,000 megs a day for in excess of 10 days—to flush large volumes of sand out. Then you need smaller flows to slow the ingress, because every tide is bringing sand in and there is not sufficient energy to take it back out. That is because the wave action picks up the sand on the sea side but you have no equivalent mechanism on the outgoing tide to lift the sand and take it back out. So, you get this net ingress of sand only stopped when you have an imbalance in the total flow. So, we are not expecting the dredging to ever totally cease. Whenever the flows in the system are low, we will expect to keep dredging in that system.” (Senate Estimates 25th May 2018)*
4. The MDBA have based their computer modelled environmental flows on a fundamentally flawed perception of how the river and its estuary system works. Assumptions that large volumes of water delivered to the end of the Murray would achieve a Murray Mouth open to the sea for 95% of time was based on modelling that failed to account for the Southern Ocean’s role in moving sand to block the flows. Bruce Thom, an Emeritus Professor at Sydney University and lead author of the paper in River Research and Applications journal, said the omission was stark not least because the region is *“one of the most high energy exposed beach coasts in the world.”* Professor Thom said, *“The sand is winning and it will continue to win as sea levels rise [with climate change].”*
5. This echoes the Wentworth Group’s finding that *“under climate change, it is likely to be increasingly difficult to maintain freshwater values in the lower lakes.”* Jamie Pittock, a professor at ANU’s Fenner School of Environment said the failure to model coastal sand movements was *“a big oversight and it means the main basin plan targets are unachievable.”*

Graph from South Australian Government agency, SA Water PowerPoint December 2014



This graph shows sand volume at the Murray Mouth and flows to the sea. As soon as flows drop below about 20,000ML- 30,000ML/day, sand starts to accumulate.

Even if the 450GL could be attained (which it can't) and delivered (which it can't) this volume only equates to 1200ML/day all year round and so is minimal in comparison to the flow volumes required to keep the Murray Mouth open.

To take this analysis further an average outflow through the mouth of 25,000ML/day equates to 9000GL/year, 20 times greater than the 450GL upwater volume. This shows the sheer absurdity of legislating a Constraints Strategy and 450GL in the misguided assumption that this would keep the MM open 95% of time without the need for dredging.

The sound economic principle of keeping irrigation water use as close as possible to storages, in order to conserve this extremely valuable resource in a country as dry as Australia, has been thrown out the door.

Point 6

The purchase of further water and attempted delivery of this water will impose massive environmental, social and economic ramifications.

It is purely a result of MDB Plan policies which has seen a dramatic change in ownership of water and trading rules allowing vast volumes of water to be sent thousands of kilometres downstream.

The sound economic principle of keeping irrigation water use as close as possible to storages, in order to conserve this extremely valuable resource in a country as dry as Australia, has been thrown out the door.

Ironically, we were told irrigation modernisation in the Goulburn Murray Irrigation District (GMID) was necessary to save water from leaking old channels and inaccurate meters, but now we are seeing massive water losses incurred due to delivering large volumes thousands of kilometres downstream from storages and out to the ocean with absolutely no hope of achieving the ideological assumptions made on the ability to "enhance environmental outcomes".

Murray Darling Basin communities have already suffered from many, many unanticipated consequences as the result of basin plan policies.

We have seen the loss of thousands of jobs, loss of water from regions has destroyed communities, businesses, forced irrigators to be "willing sellers" of their water due to financial hardship and bank pressure, and this has been well documented in so many socio-economic studies.

The over-arching principle which is to guide implementation of the Constraints Strategy states any solutions will **NOT** create new risks to the reliability of entitlements. As irrigators cannot access low security entitlements due to the basin plan policy of carryover which the environment insists it must have available to it, and the fact that the reduction in the consumptive pool from buybacks is being pursued, it is very obvious that irrigators water security and water rights have been undermined

The environmental degradation of our rivers has been appalling and not seen prior to the start of constant environmental flows. As with socio-economic impacts, it is the domino effect of circumstances that has destroyed the beds, banks, flora and fauna and this continues to be absent from any environmental documentation.

The destruction created along the length of the Goulburn River by constant environmental flows, then floods, followed closely by even more environmental flows has been documented by landowners from Eildon Weir to the Lower Goulburn.

CONCLUSION

Communities and food producers in the Southern Connected Basin have already suffered significant pain and economic hardship with previous buybacks, but being resilient, hardworking Australians have attempted to adapt to using less water by becoming even more efficient. Some have succeeded, some have not, but you cannot get blood out of a stone. All the low-hanging fruit, so to speak has been taken.

Further buybacks on the scale of between 450GL and up to 750GL (the MDBA announced shortfall figure), will reduce the consumptive productive pool to such an extent that the Goulburn Murray Irrigation District will collapse and with it Victoria's economy, such is its dependence on that region's production.

Food shortages will occur and the nation's food security severely endangered necessitating food importation, as the production of our core food and fibre staples will be drastically reduced, that is our dairy, beef, rice, fruit, milling wheat and stock fodder.

Water now has a much higher value than when previous buybacks occurred and is more tightly held. Buybacks indisputably drive up prices and production costs, causing higher prices on the supermarket shelves and reduction in available food items, as producers export more produce to chase a higher return and try to ensure their continued business viability.

It is pure insanity for the Albanese Government to pursue a policy of further water buybacks, knowing the above consequences and not being aware whether any of the assumed environmental outcomes can be achieved or what the actual cost/benefit analysis would be.

The photos below show the environmental degradation of the Upper Goulburn River with banks collapsing, massive, mature red gums and native tea tree falling in, while as recently as a week ago environmental flows of 7,000ML/day plus were taking place, which is increasing sediment displacement downstream and creating further bank destruction.







Upper Goulburn River at the Molesworth Choke where channel capacity is 9,500GL/day, and where overbank flows quickly cut access preventing any use of riverplain country.





END OF SUBMISSION