



RLCAG SUBMISSION TO THE WATER ACT, 2007 REVIEW

1) INTRODUCTION:

The Murray-Darling Basin (MDB) may not be in drought but there has never been a more demanding need for strong water legislation to protect the Basin from self-interested people wanting to extract every last drop of water from the Basin.

The Commonwealth Water Act, 2007 (Water Act) has certainly been transformative legislation ensuring the management of the River has progressed beyond an exploited irrigation canal that water should be extracted until the River runs dry to a natural asset which is enjoyed by all the community for recreational, tourism, irrigation, urban and farm water supply, spiritual and cultural, environmental and many other purposes.

However the need for improvement in the management of the Murray-Darling Basin (MDB) is clearly evident by the failure to meet the objectives of the Water Act.

This failure has been due to active obstruction, political lobbying and manipulation to serve vested interests. This is evident by the political lobbying and spread of lies and misinformation on how River Murray water is managed in South Australia (SA), in an attempt to have water reallocated from SA's Environmental Entitlements to irrigation extraction in the NSW Riverina area.

These failures have led to the official listing of the River Murray downstream of the Darling River as a critically endangered ecological community under the EPBC Act on January 15, 2026. This listing provides the highest level of federal legal protection and extends downstream to include the Murray Mouth and Coorong.

This is the first Public Review of the Act after 14 years of implementation and nearly \$13 bil of expenditure. RLCAG believe that there have been significant failures in delivery of the objectives of the Water Act including:

- over-allocation of water has not been fully reversed, with several NSW Water Resource Plans (WRP) still outstanding and other WRPs not meeting their SDL.
- an environmentally sustainable level of take (ESLT) has not been produced for this review but is obviously far from achieved by a very significant margin, with continued evidence of decline in key species and habitats
- ecological decline has not been halted and reversed as required in the Act but is continuing to decline because compromised actions have failed to deliver the volumes or patterns of flow required to the full range of habitats at adequate frequency for long enough.

The Water Act must be strengthened, to achieve effective implementation and sustainable management of water resources, in order to secure the future sustainability and resilience of all communities, in the MDB and across all Australian catchments.

There must be real consequences for jurisdictions that fail to deliver required actions and agreed projects, and for failing to meet deadlines. There must be enforceable provisions for fair sharing of water resources, including downstream communities and First Nations, and in the longer term, for future generations.

2) WHO ARE RLCAG?:

The River, Lakes and Coorong Action Group Inc. (RLCAG) was formed in 2006 as a direct response to the threats to a healthy ecosystem posed by the Millennium drought, overallocation and insufficient flow in the Murray Darling system. Since that time, we have continuously advocated for a healthy whole of Murray Darling basin sustainable system, from source to sea, with fair and equitable use of water for all including agriculture, First nations and the environment.

The objects and purposes of our association are:

- To protect, conserve and enhance the biodiversity of the River, Lakes and Coorong.
- To liaise with appropriate bodies over the management of the River Murray, Lakes Alexandrina and Albert and the Coorong and their immediate surrounds.
- To educate the local community in River Ecology and its sound management.
- Advocate for First Nations water rights in the Murray-Darling Basin.

RLCAG attempts to connect the dots between, what our Community sees and feels, what Country remembers, and what Science tells us. Our aim is to synthesize truthful information to reflect the whole Coorong, Lower Lakes and Murray Mouth (CLLMM) community.

We have engaged with Murray Darling matters through submissions, symposia, meetings and campaigns. Members of the organisation, particularly the late Henry Jones, were closely involved in the development of the Murray Darling Basin Plan.

We seek to have the Murray-Darling Basin (MDB) managed as follows:

- Decisive, immediate intervention to halt the ecological decline in the CLLMM area. This will improve the entire MDB system long term.
- Governance that is prescriptive and includes greater transparent decision making and decisions that are informed with the best available science.
- Compliance that is monitored and enforceable.
- “Bottom-up” management by fostering broader basin community engagement.
- Water justice for First Nations people as a foundational principle.
- Management of the River as a sustainable “Living Entity” and not just a conduit for water delivery.
- Improved and facilitated communication between various interest groups along the river system to foster cooperation and dispel misinformation.

Poor management of the River upstream of the CLLMM region has a significantly cumulative impacted this region. A river dies from its mouth and then back up the River. If we under-resource this part of the system, we will eventually degrade everything upstream

3) WATER ACT REVIEW DISCUSSION PAPER – QUESTIONS FOR CONSIDERATION:

1. To what extent have the objects of the Water Act been achieved?

The objectives as stated in the Water Act are:

“The purpose of the Basin Plan is to provide for the integrated management of the Basin water resources ... by providing for:

- (a) giving effect to relevant international agreements (to the extent to which those agreements are relevant to the use and management of the Basin water resources); and
- (b) the establishment and enforcement of environmentally sustainable limits on the quantities of surface water and ground water that may be taken from the Basin water resources (including by interception activities); and
- (c) Basin-wide environmental objectives for water-dependent ecosystems of the Murray-Darling Basin and water quality and salinity objectives; and

- (d) the use and management of the Basin water resources in a way that optimises economic, social and environmental outcomes; and
- (da) the use and management of Basin water resources that takes into account spiritual, cultural, environmental, social and economic matters relevant to Indigenous people; and
- (e) water to reach its most productive use through the development of an efficient water trading regime across the Murray-Darling Basin; and
- (f) requirements that a water resource plan for a water resource plan area must meet if it is to be accredited or adopted under Division 2; and
- (g) improved water security for all uses of Basin water resources.

Evidence of failure to meet these objectives in the CLLMM region include:

- to the official listing of the River Murray downstream of the Darling River as a critically endangered ecological community under the EPBC Act on January 15, 2026 (with an extremely high risk of collapse within 10 years).
- the marine Harmful Algal Bloom in SA in 2025-26 which was partially due to poor management of floodplains prior to the large River Murray floods of 2022/23 with catastrophic economic and environmental impacts on coastal communities and fisheries. See **Discussion Paper No.3** in the Appendix herewith)
- extended freshwater algal blooms persisted in the River Murray Goolwa Channel and Lower Alexandrina in both Summer and Autumn of 2023-24 and 2024-25.
- continued very low numbers of freshwater mussels in the Lower Lakes in spite of several freshening events, with very significant reduction of their critical filtering function
- mass fish kills of native fish in the Darling-Baarka River in 2018-19 and 2022, as well as extensive deaths in freshwater mussels
- all lower valleys in the Basin are assessed as being in poor condition in the SDL assessment, primarily as a result of reduced flows from upstream reaches
- the Murray Mouth requires dredging more than 90% of the time
- native fish populations in the CLLMM region are in decline, with some species having vulnerable or threatened status
- ongoing serious decline in waterbird populations by 60-70% since 1983, with minimal recovery during intermittent high flow conditions
- between 2014 and 2019 only 4.8% (or 141,000 ha) of wetlands in the MDB that could be wetted with managed environmental flows, were watered in those years.

The objectives of the Water Act have failed to be met and there is a clear need for improvement in the management of the Murray-Darling Basin (MDB).

This failure has been due to active obstruction, political lobbying and manipulation to serve vested interests. This has resulted in regulatory capture and a strong desire to maintain the status quo such as the continued, unsustainable levels of consumptive use in NSW.

This is clearly evident by the political lobbying and spread of lies and misinformation by these same political lobbyists about how River Murray water is managed in South Australia (SA), in a blatant attempt to have water reallocated from SA's Environmental Entitlements for even more irrigation extraction in the NSW Riverina area.

RLCAG have attempted to counter this campaign of lies and misinformation by producing an unemotive explanation of how SA manages River Murray water in plain language to the general public. A copy of this **Discussion Paper No.4** is included as an Appendix of this document.

Conditions at the end of the river provide the clearest indicator of whether Basin-wide water management is working. The ecological health of the Lake Alexandrina, Lake Albert, Lower River Murray region, Coorong and the Murray Mouth reflects the cumulative impact of water decisions across the Murray–Darling Basin.

Regulatory frameworks must explicitly prioritise end-of-system environmental outcomes and ensure flows are sufficient to maintain an open Murray Mouth and flush accumulated salt, nutrients and other pollutants from the system.

2. What are the opportunities for the Water Act to improve the delivery of First Nations economic, environmental, social, spiritual and Cultural outcomes?

First Nations people hold inherent rights to water and under their own laws and customs, obligations to protect, conserve and care for Country. However, the legal and institutional frameworks that colonisation imposed have systematically denied First Nations peoples the rights, authority and resources necessary to exercise and protect Country, with this including rivers, wetlands, soaks, billabongs and aquifers across the Basin.

First Nations peoples own just 0.17% of available surface water entitlements and 0.02% of total available groundwater entitlements across the MDB. This renders them relatively powerless in public debates about water governance and management and in regional or local decisions about water use.

While the *Water Amendment (Restoring Our Rivers) Act 2023* (Cth) introduced a stronger objects clause¹⁵³ and reporting obligations regarding engagement of First Nations in water planning, these amendments do not elevate cultural knowledge that has been accumulated over millennia, mandate tangible cultural outcomes, recognise and protect cultural flows, or provide mechanisms for the restitution of water.

The MDBA's obligation to 'have regard to' First Nations values and uses in environmental water planning creates entry points for input but does not produce enforceable rights or guarantee substantive outcomes. First Nations engagement has been consultation rather than genuine partnership, leaving the underlying distribution of entitlements, authority and resources unchanged and at risk of further loss.

Water rights must be legislated and made available to First Nations through their preferred self-determined institutions via amendments to the Water Act and the Murray-Darling Basin Plan. First Nations are seeking more than engagement, they are seeking the activation of inherent rights, joint-decision making, agency via adequate and recurrent funding, self-determination and the realisation of relevant international agreements through legislative changes to the Water Act.

The Water Act needs recognise the rights of First Nations to hold water entitlements for cultural flow purposes and identify a framework of enforceable benchmarks against which progress in this area can be measured including water recovery targets.

Funding must be allocated to provide secure, ongoing support so First Nations can be directly and appropriately resourced to participate independently and properly in water management, governance, legal processes and decision-making. Cultural values of water should be embedded in all water planning, including regional Water Resource Plans.

3. What are the opportunities for the Water Act to promote the principles set out in UNDRIP?

UNDRIP was endorsed by Australia in 2009 and affirms First Nations people's rights to own, use, develop and control their traditional resources, including water and their right to free, prior and informed consent in decisions affecting those resources.

Further to UNDRIP, the Convention on Biological Diversity (CBD) imposes further obligations to respect, preserve and maintain First Nations knowledge, innovations and practices relevant to biodiversity conservation. While Target 22 of the Kunming-Montreal Global Biodiversity Framework requires that First Nations people's rights over lands, territories and resources are respected and that they are able to participate fully and effectively in biodiversity related decision making.

Outcome 15 of the National Agreement on Closing the Gap requires a 15% increase by 2030 of Aboriginal and Torres Strait Islands rights to Australian landmass for a distinctive cultural, spiritual, physical; and economic relationship of those lands and waters.

Taken together, UNDRIP, CBD and Closing the Gap establish a clear and consistent framework that requires genuine partnership and power sharing with recognition of First Nations authority over Country. These obligations are legal and moral imperative rather than “matter of concern”.

4. Are the institutional and governance arrangements under the Water Act effective in ensuring accountable, efficient and transparent decision-making? If not, how can they be improved?

The Water Act needs to be strengthened to encourage cooperation between state governments, such as incentives to encourage active progress like linking funding payments to progressive delivery of outcomes. There must be real consequences for jurisdictions that fail to deliver agreed actions and projects, and for failing to meet deadlines.

Regulation and enforcement are always going to be a challenge when there are so many Federal, State and even Local Government bodies involved with the management and control of the many and various inter-dependent issues. However, by setting clear principle and priorities embedded in the Water Act then implementation and improvements can be achieved. A clear example of this has been the control of salinity in the Basin.

However, the most critical example now is the major failure to resolve constraints, with the Constraints Roadmap suggesting that it will take a further 10 years and significantly more funding to complete this fundamental program which is essential to achieve the objects of the Water Act and the Murray-Darling Basin Plan.

There have been continuous delays and obfuscation on key tasks and commitments that were agreed when the Basin Plan was signed in 2012. The price for these failures and defaults is being paid by the Basin environment, with first effects being felt by downstream communities and First Nations, and in the longer term, by future generations.

The Independent Panel on Constraints Relaxation has highlighted the need for much more effective and cooperative governance in order to achieve constraints relaxation. RLCAG supports their package of 8 recommendations, with the addition of financial incentives to ensure timely completion of projects.

Public confidence in Basin governance depends on effective monitoring, transparent reporting, and visible enforcement.

The appointment of an Inspector-General for Water Compliance in 2021 to enforce stronger controls, and tighter regulation of Water Markets as part of the Restoring Our Rivers Act of 2023 have all been welcomed improvements even though they should have been introduced right from the start of the Water Act 2007 as a lot of trust and confidence has been eroded during these early years.

Globally, environmental laws tend to be poorly enforced, and water law in Australia is certainly no exception. Where there is water, there is money and where there is money, there is power. And in a modern democracy, power finds ultimate expression in the interplay between industry and politics.

If we are prepared to accept the inherent nexus between water, politics and power, and the very real possibility that even good laws will not be enforced, we need to do three things:

- Ensure that water laws include robust transparency and governance provisions that are designed to thwart political interference, maladministration and corruption.
- Establish truly independent water agencies that are incentivised – and legally required – to rise above the political fray.
- Consider the role that deliberative democracy could play in transforming the cultural context within which water management, law and decision-making takes place.

We need to enshrine deliberative democracy in the management of the MD Basin. This places conversation, diverse views, informed reflection and respectful listening at the heart of decision-making processes. Empirical research has shown that deliberative democracy reduces polarization, promotes considered judgement and counteracts populism. Deliberative democratic processes have been used around the world to amend constitutions in otherwise fractious political settings and to shift perspectives in relation to ideologically-driven issues such as immigration and environmental management.

Regulatory reform should strengthen national oversight of water compliance, harmonise monitoring standards across Basin states, and ensure publicly accessible reporting of water extraction and environmental outcomes.

Strong, transparent regulation is essential to maintaining trust in the Murray–Darling Basin Plan and ensuring it delivers a healthy working river system. Without transparent compliance the strong shift needed in this space will not change.

Deliberative democracy must be enshrined into the Water Act to ensure community driven water management, law and decision-making is practiced.

MDBA must implement these strong reforms, the Australian Government would oversee them, independent audit bodies would ensure accountability, and state regulators would assist with on-ground enforcement.

Enforcement/compliance findings in each State must be known/listed and made publicly available.

5. Is the role and administration of WRPs clear and fit for purpose?

WRP may be made less bureaucratically onerous with unnecessary reporting eliminated, but reporting on critical issues such as compliance with SDL, water quality monitoring and control, etc should be toughened up with penalties for late or non-compliance. It is important to note that improvements to efficiency in management, while financially desirable, does not in itself improve outcomes for the Basin.

Some issues remain unresolved such as four (4) WRP in NSW still need to be finalised. These are many years behind the 2019 deadline. Undoubtedly there is room to reduce some of the onerous requirements for WRP accreditation, but these Plans are fundamental for the implementation of the Water Act and such issues of SDLs and water quality management should be non-negotiable.

It is agreed that WRPs must focus on core areas that matter most. These include:

- ensuring SDL compliance
- ensuring no net reduction in the protection of planned environmental water
- protecting held environmental water as it moves through the system
- addressing risks from groundwater extraction
- requiring genuine engagement with First Nations peoples in water resource planning and implementation, underpinned by free, prior and informed consent
- aligning the development of WRPs with the First Nations purpose of the Basin Plan
- prioritising river connectivity between planning areas, including across borders, at crucial times
- ensuring critical human water needs are clearly identified, prioritised and underpinned by robust monitoring.

Base flows must be secured throughout the river systems to maintain sufficient water quality for all communities and for ecosystem health. Provision must be made in upstream Water Sharing Plans for reserve volumes to be available to disperse poor quality water events. It must be clearly understood that environmental flows should not be used to manage such water quality events and, in any case would be insufficient to provide a solution.

WRPs need to recognise as core system obligations, not optional add-ons to include provisions for minimum base flows, maintenance of water quality, and to deliver end-of-system flows to downstream reaches.

In Chapter 9 of the MD Basin Plan titled “Water Quality and Salinity Plan”, ‘default values’ are prescribed for water quality parameters for each WRP but these were meant to be an interim measure. These targets have not been revised for any WRP and the implementation of Chapter 9 requirements for water quality management has been largely ignored. (see RLCAG’s Discussion Paper No.2 – “Water Quality Targets for the Coorong, Lower Lakes and Murray Mouth Region”).

Catchment-specific ecologically relevant water quality targets must be developed for all WRPs including targets for each component of the CLLMM region. Target values need to be Specific, Measurable, Achievable, Relevant and Time-bound, i.e. SMART.

Reporting required by WRP managers may be simplified but reporting on critical issues such as compliance with SDL and water quality targets must be toughened with penalties for late or non-compliance.

6. What are the opportunities for the Water Act to optimise the use of environmental water to achieve additional environmental outcomes, especially in the face of a changing climate?

Environmental water should be recognised not only for ecological outcomes but also for co-benefits, including:

- Supporting tourism and recreation in the Lower Lakes and Coorong,
- Enhancing water quality for local communities and Critical Human Needs, and
- Preserving culturally significant landscapes

Healthy ecosystems underpin regional economies and community wellbeing, particularly in South Australia where the Basin’s end-of-system health is highly visible and socially significant.

Environmental Water could be renamed as “Community Health Water” as the communities health relies on a healthy River..

The health of the Basin depends on the river’s ability to connect with its floodplains and wetlands. Connection is critical for flushing sediments and nutrients, maintaining and regeneration of native vegetation, breeding and migration of fish and birds and improving water quality.

Healthy wetlands require periodic watering at an appropriate frequency and duration, expressed as an ‘environmental water requirement’ (EWR). There are hundreds of EWRs for Basin ecosystems. They are linked to ecological outcomes such as the flows required for fish breeding or floodplain vegetation flowering. Many EWRs are not being met, however, in part because they are not legally enforceable and critical flows required to meet EWRs are vulnerable to extraction.

Rather than trying to manage environmental outcomes for hundreds of EWRs, a better approach would be to identify a smaller subset of water requirements reflecting the essential watering needs of priority wetlands and enforce them as the highest priority in water sharing plans. Allocations and extractions should only be allowed if priority flow requirements to these wetlands have been achieved within the valley and in downstream connected valleys. This will protect important flow events on a temporary basis, allowing them to pass through the system.

The biggest blockage to the effective delivery of environmental water is the monumental failure to resolve constraints or even to make any significant progress towards doing so. The rhetoric about being more efficient with environmental water already recovered cannot be implemented until serious progress is made to resolve constraints, physical, legislative, political and operational. The

revised Water Act needs to include effective penalties for non-delivery of promised actions against deadlines.

Currently delivery of environmental water is primarily constrained to connected river channels and waterways, with water only delivered to floodplain wetlands where it can be lifted to higher levels. There are major operational constraints restricting the use of environmental water to boost natural flows high enough to reach floodplain sites.

As a consequence, only 21% of Federal Government water was delivered to floodplain wetlands and the rest stayed in river channels. This drying out of wetlands has been called ‘triage by default’.

Programs to accelerate the relaxation of constraints are crucial if we are to sustain floodplain wetlands and optimise the benefits of water for the environment held by government. In the southern Basin flow constraints such as infrastructure and cropping on floodplains limit the ability of river operators to make environmental water releases, reducing opportunities for minor flooding of low-lying wetlands and increasing the risk of degradation of floodplain forests. Floodplain engineering projects should be discontinued – they will not deliver the claimed benefits and they risk being maladaptive under climate change

It is well established that progress by NSW and Victoria in relation to constraints relaxation in their respective jurisdictions has been limited, and that there has been an erosion of ambition with respect to flow rates originally proposed by the MDBA under the 2014 Constraints Management Strategy. This has a disproportionately large impact on South Australia, which depends on these upstream states to remove constraints to enable a flow rate greater than 40,000 ML/day at the South Australian border to enable overbank flows along the Lower Murray River and for the benefit of the CLLMM.

Changing operational rules to allow short-term increases in flows to achieve more effective watering of key sites would require inter-government agreement. Technical support projects have been completed and coordinated flow management has been effectively demonstrated with multiple spring flushes coordinated by CEWO and the Southern Connected Basin Environmental Flows Working Group.

This proven success needs to be elevated for coordinated short term flow boosts when natural events occur, as in the current high flows in the Goulburn catchment which are filling floodplain billabongs and lakes in the mid-Murray reach downstream of Echuca. The recommendations of the Independent Panel on Constraints Relaxation would resolve this constraint.

Ways to compensate floodplain land holders affected by these constraints relaxation need to be considered including capital gain tax exemptions and stamp duty concessions which may expedite these constraints.

In addition, engaging a suitably qualified, independent third-party entity to progress negotiations and contractual arrangements should also be considered. Negotiating with, and aggregating, thousands of landholders is an inherently complex and time-consuming exercise, particularly when it involves sensitive conversations about land use change, risk management, contractual arrangements and social buy-in. Engaging the right ‘mediators’ who have direct experience in similar circumstances, and who have a track record of building trust with landholders, will likely help expedite this difficult area of Basin Plan implementation.

Another important issue is the effective loss of Held Environmental Water due to Climate Change. If SDL are not adjusted to achieve a Environmentally Sustainable Level of Take (ESLT) as average annual flows in the Basin reduce due to Climate Change as is already happening, then allocations will be reduced.

There appear to be three ways to deal with a lower SDL due to Climate Change: the first is to cut extractive entitlements by straight percentage which will increase over time; the second is to buyback entitlements which would be extremely expensive; and the third is to do nothing which is what is being proposed but this is not an acceptable approach as environmental flows will be reduced and the Environmentally Sustainable Level of Take (ESLT) will be exceeded.

The ESLT must be re-evaluated biannually, using updated climate and hydrological modelling, with precautionary protections where uncertainty exists. and

- Additional Held Environmental Water needs, over and above the current 3,200 GL/yr, recovered,
- SDLs for each WRP must be reassessed,
- Extractive Water Entitlements must be reduced by an equal %

7. What are the opportunities for the Water Act to support social and economic outcomes, including for First Nations?

With the change in unbundling and commodification of water rights leading to significant land use changes and shifts in crop types (i.e. crops needing an abundance of water for growth or dry land cropping adjustment) community structures and local economies have been negatively impacted.

Empirical research has consistently shown that voluntary water buybacks are NOT the reason for negative impacts on rural communities. This can not be used as a scapegoat for poor planning and regulation of rural communities.

Control of land use and crop production are mainly State Government issues, but MDBA must set targets and objectives to push the Basin States to recognise the importance of environmental, social and economic outcomes?

Measures need to be put in place to protect Australia's food security, so these producers do not have to compete for irrigation water allocations with food and fibre grown for the export market or speculators pushing the price of water higher?

There is not a current threat to Australia's food security as Australia produces three (3) times as much food as it needs for our own consumption and then 30% of what is produced goes to waste because of aesthetics or other marketing reasons.

However, around 80% of what is produced by irrigators in the Murray Darling Basin is sent overseas. With regards to food staples such as rice, vegetables and fruit, there is only around 10% of what is produced that stays in Australian for consumption. Exports produce profits for a few, often larger foreign owned companies, who outcompete small local farmers for water entitlements and have no vested interest in the need for a healthy Environment.

We are effectively exporting MD Basin water overseas. We are not going to run out of food because water is allotted to the Environment. We can only run out of food if irrigators choose to export what they grow rather than feed Australians. As seen from the recent fuel shortages, food supplies can be easily disrupted, producing price spikes and shortages of food supply due to farmers deciding new plantings to be unprofitable.

An incentive scheme to farmers guaranteeing to supply food for the Australian domestic market would help guarantee food security and stabilise food prices. Perhaps a scheme similar to how European food producers are protected through a comprehensive, multi-layered framework designed to guarantee quality, preserve traditional production methods, and shield them from market volatility and unfair competition may be beneficial to Australia.

Water for the Environment must be prioritised over irrigation water used for exports, especially by large foreign owned companies who care little for Australia's environment and Water Markets must give priority to Australian sustainable food producers over export products.

Healthy environments support eco-tourism and regular tourism, with visitors attracted to riverscapes and water-based recreation. Community well-being is also reliant on healthy river environments. Minimum base flows in all systems must be a requirement, as well as end-of-system flows from tributaries.

The rising cost of unhealthy river environments to river communities and the national economy needs to be taken into account in setting the legal framework for sustainable management of Australian water resources.

8. To what extent are arrangements under the Water Act appropriate to ensure resilient communities and provide water security?

The Water Act must do more than merely slow the otherwise inevitable decline of our rivers and floodplains which will continue in the absence of a broader approach which addresses over-allocation and supports transition in a changing climate.

This broader approach must extend beyond the strict parameters of water policy and consider structural adjustment opportunities that enable evidence-based, voluntary transition opportunities for farming families and communities – whether or not these pathways involve farm exit.

Such an approach must recognise the particular nature of irrigation trusts (and their equivalents), where ongoing infrastructure maintenance costs are the collective responsibility of all members. Fixed costs shared between a shrinking base of farmers places financial pressure on remaining irrigators, with the shared infrastructure potentially becoming unsustainable over time.

It must also acknowledge that exit pressures in the MDB are shaped not only by water policy but by sustained financial stress, ageing farm operators, volatile input and commodity costs, and long-run demographic decline in irrigation-dependent regions.

The Water Act does not at present provide mechanisms for sharing a reducing volume of available water or incentives for developing adaptations to a drier, less reliable future supply.

Modelling indicates that allocations for general security licences are very likely to be significantly impacted by hotter, drier weather over the coming decades. There is no legal requirement for governments to compensate licence holders for reductions in allocations attributable to a climate change, meaning that the burden of adapting to harsher conditions will be borne by farmers.

There is a need for more transparent reporting against targets and flow conditions, to help communities understand how much water is available, and how decisions are made to release water and share it.

This burden is further amplified by the structural problem of over-allocation – particularly in NSW – where too many licence holders are competing for a resource that is finite and ecologically strained. Climate change clearly did not create this underlying structural problem, but it is now exacerbating it by shrinking the pool of available water while the number of competing claims remains proportionately high. To these issues we can add an increasingly volatile global context which affects input costs, trade and commodity prices, as well as the well-documented restructuring of agriculture in the MDB driven in part by the operation of water markets.

While the prospect of transition and change is distressing and deeply contested, it is arguable that governments nonetheless have a role to play in developing and funding coherent regional strategies designed to help communities adapt to increasingly challenging climatic and economic conditions. Indeed, it would be considerably more humane for governments to fund a structured transition plan than to allow climate pressures, financial stress, and market forces to slowly and silently erode the viability of vulnerable landholders, with no prospect of compensation or meaningful assistance.

Importantly, any such transition or structural adjustment plan should seek to address structural over-allocation, with this being fundamental to the success of the Water Act and Basin Plan.

Hence a structured, government-funded regional adjustment program must be developed for farming families and communities facing climate-induced and market-driven transition pressures.

There must also be provision for water security to sustain healthy working river ecosystems. This will be essential to maintain water of suitable quality and quantity to support human communities and activities. It must be made clear that water security does not equate to unlimited access to water. The provisions for security must be framed within the finite limits of water resources and the definition of ESLT in various water systems.

9. To what extent are arrangements under the Water Act appropriate to address current and future challenges in relation to water quality?

The management of water quality in the MDB was one of the major drivers for the establishment of the Water Act, 2007 to make sure Basin water resources remained fit for purpose and appropriate for environmental, social, cultural and economic use. But while salinity issues in the Basin are under control, other water quality issues have been left unaddressed and water quality issues have been managed simply by dilution with Environmental Water volumes. However, Environmental Water was never intended for this purpose and should be reserved for its intended purpose of watering wetlands, floodplains and protecting threatened species. Water quality issues need to be addressed at their source.

The 2025 Basin Plan Evaluation found “improved water quality” in the Basin. This is highly contested as the amount of water quality monitoring and the parameters monitored are very inadequate to be able to draw this conclusion (see **Discussion Paper No.1** as an Appendix).

Historically floods did not cause massive fish kills, like they do now. In fact, floods historically caused booms in aquatic productivity for native fish and crayfish, as documented in historic literature on the MD system. There were small areas of deoxygenation that mobile biota could move away from, but nothing like the scale of kills of recent years.

These fish kills are not ‘natural’ events. It is a consequence of our management of water and the landscape which drain into the river. This can be fixed but it requires significant change and political will.

The past 2 years have seen extensive BGA *cylindrospermopsis raciborskii* outbreaks for many months in the freshwater areas of the CLLMM region and a coastal marine Harmful Algal Bloom (HAB) in Gulf St Vincent, Spence Gulf and in the Northern Lagoon of the Coorong, rendering our waterways a health hazard. The marine disaster has been enabled by an extended marine heatwave with the large pulse of nutrient-rich floodwater from the 22/23 River Murray floods providing the nutrients needed to sustain this HAB. While the freshwater disaster is also likely to be due to the lingering effects of the 22/23 flood.

Given our inability to predict or even understand the mechanisms for the BGA (*cylindrospermopsis raciborskii*) in the river and lakes, or the dinoflagellates (mainly *karenia mikimotoi* and/or *karenia cristata*) in coastal waters, additional Water Quality monitoring stations and additional parameters monitored, must be established as well as control of nutrients.

The main drivers of poor water quality in the Basin are:

- Land-use and management practices
- Invasive species such as European carp
- River regulation changing flow patterns
- Pollution from Urban development

Water quality in rivers and wetlands is of increasing concern, not just for town water supplies, but also for ecological health. The impacts on water quality are becoming more obvious as river flows decrease, small floods are prevented and the chance of extreme rainfall events and flood events

increases. Conditions of particular concern include hypoxia, blackwater, stratification and algal blooms.

Water Quality is also a major issue for First Nations people as it limits their cultural practices of fishing, swimming and drinking from the river

To manage water quality, Basin wide coordinated action is required in such areas as riparian restoration, fencing of river banks, and sustainable land management. Local efforts in integrated waterway and catchment management have shown what is possible, but they remain fragmented and under-resourced.

Proposals for a basin wide approach include that proposed by the One Basin Cooperative Research Centre (One Basin CRC) in their “BASIN SCALE: A Collaborative Declaration Towards a Sustainable and Productive Murray-Darling Basin” (One Basin CRC, 2025). This Basin SCALE Declaration is a call for System-wide, Catchment Aligned, and Locally Empowered action.

Similarly, a thorough review of land use practices has also been conducted by the Wentworth Group of Concerned Scientists and published under the title “A Blueprint for the Repair of Australia’s Landscape, July 2024” which describes a suite of practical actions and investments to repair Australia’s degraded landscapes, and in doing so, prepare for the unprecedented climatic pressures ahead.

The Blueprint identifies 24 practical actions which aim to:

- Repair the productive base of agricultural soils,
- Fix overallocated and fragmented river systems and rehabilitate degraded catchments,
- Restore healthy native ecosystems to a minimum 30% of their pre-1750 extent,
- Mitigate extinction risk and ensure survival of Commonwealth-listed threatened species,
- Maintain and improve the health of estuaries.

Water quality benefits from such basin wide integrated land management will be enjoyed throughout the entire basin and right down to the mouth and the adjacent coastal areas.

Waterways that flow through farmland and from roadside drains are all regularly contaminated by pulses of pesticides from a range of sources from agricultural spray drift, farm run-off, council weed control and urban uses. Their presence is often transitory, so they are not always detected. Unfortunately, pesticides leave a legacy even after they have passed through the system, adsorbed into the river floor sediment or been broken down into other metabolites.

Australia continues to permit many chemicals that have been removed in the EU due to their adverse toxic impacts on the environment, such as neonicotinoids and fipronil insecticides. These compounds have severe impacts on insects at parts per trillion exposure levels. The declines in insects across agricultural areas have been largely attributed to pesticides and loss of vegetative habitat (Sanchez-Bayo & Wyckhuys, 2019). The levels of neonicotinoids reported in Australian waterways are rising, where there is monitoring (outside of the MD basin) taking place (Warne, Turner, Davis, Smith, & Huang, 2022).

Unfortunately, some of our aquatic macrofauna, like crayfish, are also acutely sensitive to these chemicals, contributing to some species now being listed as threatened species. Species like crayfish are critical to consuming the influx of organic matter to rivers. Through eating the plant material, the crayfish make it unavailable to bacteria and help reduce its deoxygenation potential. Further, the crayfish assimilate the organic material into high value proteins and fats which can then benefit the consumers of the crayfish like our predatory and native fish like Murray Cod and Golden Perch and freshwater turtles and silver perch.

Pesticides are also known to stress biota, making them more vulnerable to extreme conditions such as temperature, DO, etc. as is expected due to Climate Change.

There must be regulations to control the use of pesticide/chemical types used alongside of the River e.g. Western Australia’s control of fertilisers used for domestic purposes (Fertiliser Partnership website <http://www.fertiliserpartnership.agric.wa.gov.au>), etc?

Catchment-specific ecologically relevant water quality targets need to be determined and agreed with each WRP manager. These target values need to be established with a good scientific knowledge of the ecosystem and how secondary indicators respond to a range of water quality parameters both over long periods of time (chronic effects) as well as short term extreme (acute) events (see **Discussion Paper No.2** as an Appendix).

By setting appropriate target values for the primary indicators of water quality, it becomes immediately clear when the ecosystem is not in the desired condition to support healthy secondary indicators and action is required. Also, it is clear which parameter is not in compliance, and the actions can be focused on mitigating that parameter before secondary indicators are adversely affected over time.

When site specific targets have been set by the Basin Plan, such as salinity targets, good results have been achieved.

Catchment-specific ecologically relevant water quality targets must be developed for all WRPs including targets for each component of the CLLMM region. Target values need to be Specific, Measurable, Achievable, Relevant and Time-bound, i.e. SMART.

It is agreed that Climate Change will place more pressure on Basin water quality for all the reasons stated (Colloff, M, 2022).

It is acknowledged that “the Basin Plan cannot manage water quality hotspots on its own” and that “co-ordinated policies and actions across the water, agriculture, environment and land-use sectors” are needed. This co-ordination needs to be initiated and managed and the Basin Plan should address how this will be implemented.

To help give this co-ordination a clear mission, the Basin Plan must set clear meaningful objectives and water quality targets on at least a sub-catchment basis and even be site specific where warranted e.g. CLLMM region and other hotspots. The Great Barrier Reef’s “Reef 2050 Water Quality Improvement Plan” should be used as a guide to this activity.

Given that water quality is the responsibility of the states, the Water Act needs to have more specific requirements to maintain standards and account for failures, through incentives and penalties as required to get more effective, coordinated action from state agencies. There needs to be more effective incentives and penalties to encourage the states to work cooperatively.

10. To what extent is water information management under the Water Act appropriate to inform current and future decision making, especially in the face of a changing climate?

Fundamental to the Water Act and in turn the MD Basin Plan, is the sustainability of the environment by ensuring water extraction from rivers does not excessively disrupt the natural environment and the determination of this Environmentally Sustainable Level of Take (ESLT) must be based on the best available science.

Best available science has progressed considerably since the Water Act was introduced in 2007 and the MD Basin Plan Review has failed to determine the best estimation of the current ESLT which must be a fundamental failure of this Review.

The ESLT must be re-evaluated at least every 5 years, using updated climate and hydrological modelling, with precautionary protections where uncertainty exists. Additional Environmental Water needs, over and above the current 3,200 GL/yr must then be recovered and SDLs for each WRP reassessed.

Land degradation is increasing in the Basin resulting in siltation and other adverse effects on the River. This will only be exacerbated by Climate Change when traditional land uses will become increasingly stressed. Better land management practices are desperately needed and adaptation of land uses due to a changing climate need to be investigated.

A climate-ready Basin Plan will improve the health of the Basin's ecosystems, protect drinking water supplies for towns and cities, provide greater certainty for irrigators and regional businesses, reduce the risk of future economic shocks, and support Aboriginal Nations to care for Country.

The Wentworth Group of Concerned Scientists has released a document titled "Blueprint for the Next Murray-Darling Basin Plan". This document is available here

<https://wentworthgroup.org/wp-content/uploads/2026/04/Blueprint-for-the-next-Murray-Darling-Basin-plan-FINAL.pdf>

The Blueprint reframes the Basin Plan to better align with Australia's commitments under the Convention on Biological Diversity and the Kunming–Montreal Global Biodiversity Framework.

The five reform recommendations are to:

- 1) Set Basin Plan targets to protect and restore at least 60% of the Basin's wetlands (including aligning with the Global Biodiversity Framework '30 by 30' target) and sustain wetlands through priority flows and restored river, floodplain and groundwater connectivity
- 2) Embed climate change into water planning through a dynamic, responsive, evidence-based framework that updates water plan rules, manages climate risks to shared resources, and makes trade-offs transparent
- 3) Uphold Aboriginal peoples' values of water and their rights by returning water and decision-making authority to Aboriginal Nations through secure entitlements, Aboriginal-led governance and cultural targets in water plans
- 4) Support communities to thrive in transition by securing safe drinking water, backing social and economic diversification, and investing in fair, place-based transition pathways
- 5) Improve governance and accountability by simplifying rules, strengthening oversight, and reporting honestly and regularly on outcomes—supported by transparent modelling and water accounting linked to targets

Even though these are generally Basin State responsibilities, the Federal Government could support science-based trials of improved land management practices such as those supported by:

- The Malloons Institute which worked towards hydration and drought tolerance of catchments.
- The Wentworth Group's "Blueprint for Recovery of Landscapes" which promotes a whole of catchment approach to stabilising land and protecting waterways.
- The Great Barrier Reef's "Reef 2050 Water Quality Improvement Plan" which is a successful attempt at integrated catchment management to protect the environment.

The CLLMM Region of the Basin is the most complex environmental system in the whole Basin as it is where the freshwater meets the saltwater of the ocean and is effectively attacked from both sides. The freshwater side receives all the cumulative threats due to mismanagement of upstream activities including excessive extraction, water quality pollution due to farming and urban developments, bush fires, etc. While the saltwater side is threatened by river mouth closure due to siltation, sea level rise and storm surges.

On top of this, the River Murray downstream of the Darling River and associated aquatic and floodplain systems have been officially listed as a critically endangered ecological community under the EPBC Act on January 15, 2026. This listing provides the highest level of federal legal protection and extends from the junction of the Murray with the Darling downstream to include the entire CLLMM Region.

Sea level rise is already affecting the CLLMM region with overtopping of the barrages occurring more frequently and to a greater extent than ever before resulting in large volumes of saltwater entering the freshwater lakes system. The sand dunes of the Coorong are also receding and the amount of dredging to maintain the Murray Mouth open is increasing.

The Science Program being delivered through the CLLMM Research Centre is actively involving the local community and Ngarrindjeri First Nations, and the knowledge generated helps guide and support the actions and decisions made across a range of focus areas with local groups across the region.

The Federal Government must provide funding for Phase 2 of the CLLMM Research Centre asap to ensure continuity of the scientific program to help protect this highly vulnerable region.

More action is needed to spell out the limitations of water availability and to persuade communities to accept that there will not be enough water to support all current activities or to support unlimited expansion. It is critical to generate community acceptance of the need to adapt to less water and to find innovative ways to adjust future livelihoods and community activities.

11. What are the opportunities for the Water Act to align with the objectives set out in the National Water Agreement?

The National Water Agreement functions as a cooperative intergovernmental agreement rather than direct legislation, relying on jurisdictions to create compatible action plans. The Review is examining whether current federal water institutions and governance arrangements are fit to support the cooperative decision-making models required by the NWA.

The NWA is guided by seven primary goals for national water reform and management:

- **Safe and secure supply:** Providing sufficient water quality and quantity to sustain communities, culture, natural environments, and economic prosperity.
- **Strategic infrastructure investment:** Ensuring major water infrastructure investments are effective, transparent, and economically sound.
- **Aboriginal and Torres Strait Islander water interests:** Recognising and protecting Indigenous water values, interests, and traditional knowledge.
- **Evidence-based decision making:** Underpinning water management with robust science, data, and cultural knowledge.
- **Community trust and confidence:** Fostering transparent engagement, compliance, monitoring, and reporting to build public trust.
- **Environmentally sustainable management:** Creating adaptive water planning that responds effectively to climate change and environmental pressures.
- **Efficient use of water:** Promoting water management frameworks that facilitate judicious and efficient use across all sectors.

The framework contains 40 specific outcomes intended to measure practical progress and drive accountability across participating jurisdictions. Key systemic results include:

- **Climate resilience:** Enhanced regional and urban capacity to handle extreme weather events and shifting climate pressures.
- **First Nations inclusion:** Increased involvement and influence of Aboriginal and Torres Strait Islander peoples in resource management decisions.
- **Transparent accountability:** Clear rationales, risk assessments, and value-for-money propositions for public infrastructure projects.
- **Jurisdictional action plans:** Implementation of localized 5-yearly action plans by the Commonwealth, states, and territories, subject to independent tracking.

To align with the NWA the Water Act needs to set specific targets and require regular transparent reports. There has been no specific reporting published against the Water Act targets set for 30 June 2019, i.e. to halt decline by that date and improve condition from that date. Similarly, there has not been reporting against the more specific targets under the Basin Watering Strategy:

- maintain base flows at least 60% of natural levels
- improve overall flow by 10% more into Barwon–Darling, 30% more into River Murray and 30–40% more to Murray mouth, keep open to sea 90% of time
- maintain connectivity between rivers and floodplains in the Paroo, Moonie, Nebine, Warrego and Ovens
- improve connectivity with bank-full and/or low floodplain flows by 30–60% in Murray, Murrumbidgee, Goulburn and Condamine–Balonne
- maintain current species diversity of all waterbirds and migratory shorebirds, increased abundance of waterbirds by 20–25% by 2024

- improved distribution of key short and long-lived fish species, improved breeding success, improved populations of short-lived species, long-lived species, Murray cod and golden perch,

To comply with the NWA, the revised Water Act must include:

- Require the ESLT to be evaluated immediately and then reviewed every five years. The ESLT must be based on the best available science with computer modelling peer reviewed and open to public scrutiny.
- Revise SDL based on the ESLT and update all WRP accordingly.
- Reinforce Basin State's responsibility for water quality management, baseflows and end of system flows, ensuring these are addressed in WRP and system-wide frameworks.
- Monitoring and enforcement must be transparent and there must be consequences for jurisdictions that do not comply with rules or regulations or fail to deliver required actions and agreed projects.
- First Nations rights must be incorporated in the Water Act to ensure their self determination through joint decision making and adequate funding.
- Prepare an adaptation plan for managing the effects of climate change on water availability and how to share less available water among users.

4) PRIORITY ISSUES FOR THE WATER ACT REVIEW:

The Water Act, 2007 and Basin Plan, 2012 in large part, draw their constitutional mandate from the implementation of the Ramsar Convention, the Convention on Biological Diversity and related international treaties. As the Basin Plan was enacted before Australia committed to the Convention on Biological Diversity's Kunming–Montreal Global Biodiversity Framework (GBF), the Basin Plan Review provides a critical opportunity to align water reforms with the GBF to improve biodiversity outcomes while helping Australia meet its international obligations.

While the 2026 MDB Plan Review Discussion Paper acknowledges certain shortcomings and proposed improvement options, it fails to address specific meaningful outcomes. Strengthening administrative, planning and transparency functions, while welcomed, fail to provide any action or measures to address the shortfall in environmental flows.

We believe that the Water Act has failed to achieve its primary function to reverse over-allocation and to set extractions at an environmentally sustainable level of take. Self-interest and political opportunism have compromised the Basin Plan's good intentions and has failed to listen to 'best available science'.

The environment is certainly better off than what would have been without the Water Act, 2007 and the Basin Plan 2012. However, the current Water Act and Basin Plan have failed to meet more than half of the stated objectives set out in these documents.

APPENDICES

Appendix 1 – Summary of RLCAGs Response to the MD Basin Review

Appendix 2 – Discussion Paper No.1: Water Quality Monitoring in the Lower Murray River, Lakes Alexandrina and Albert, the Coorong and Murray Mouth.

Appendix 3 – Discussion Paper No.2: Water Quality Targets for the Coorong, Lower Lakes and Murray Mouth Region.

Appendix 4 – Discussion Paper No.3: Control of Harmful Algal Bloom (HAB) in South Australian Marine Waters.

Appendix 5 – How South Australia Manages River Murray Water

APPENDIX 1

SUMMARY OF RLCAGs RESPONSE TO MD BASIN REVIEW:

RLCAG submitted a response to the MD Basin Plan Review Public Consultation which closed on 1 May 2026. The issues raised and actions recommended in our submission included the following:

ISSUES RAISED IN DISCUSSION PAPER:

1. An Initial Assessment of Sustainable Diversion Limit (SDL)

Issue 1 – Delivery of Full 3,200 GL/yr of Environmental Water

- All outstanding Efficiency Measures of the 450 GL/yr program and all SDLAM works still outstanding should be cancelled and the money used to buyback Environmental Water. This needs to be done urgently as the cost is only going to increase.
- The equivalent volumes of Environmental Water actually recovered by each of the 450 GL/yr Environmental Measures and SDLAM projects must be determined to ensure the total volumes proposed are actually recovered.

Issue 2 – Re-evaluation of ESLT and Adjusting SDLs

- The MDBA must review the environmentally sustainable level of takes (ESLT) based on the latest available scientific evidence to satisfy our National obligations, including the Global Biodiversity Framework, by using the best available models and determine and implemented revised sustainable diversion limits (SDLs).
- SDL's must be regularly adjusted (at least biannually) with % cuts to all extractive water entitlements to ensure that Environmental Waters receive their full entitlements and annual allocations are not degraded due to reduced River flows over time.

Issue 3 – Restoration of Base Flows

- Baseflows must be restored through implementing minimum daily flow rules at the end of each sub-catchment by:
 - Restricting floodplain harvesting and **bringing** all rainfall runoff that is captured on farm into the licensing regime.
 - Restrictions to supplementary take, and
 - Releasing water from dams where necessary to achieve end of system flows.
 - Extend flow rules for resumption of flow into the northern Basin tributaries to provide for a small flushing flow after extended dry periods all the way to Menindee Lakes prior to allowing extraction.

Issue 4 – Protection of Ramsar Wetlands of International Significance

- Evaluation of the Environmentally Sustainable Level of Take (ESLT) must ensure that the ecological character of all 16 Ramsar wetlands of international importance across the MDB are maintained.

Issue 5 – Drought Measures

- The Ramsar wetlands of the CLLMM region must be assured of sufficient freshwater flows to maintain water levels in Lake Alexandrina of at least 0.4 m AHD at all times.
- A similar plan to that prepared for "Drought Operating Framework for Upper Murrumbidgee River" must be prepared for the CLLMM region as we do not want last minute decision made such as building a weir at Wellington.

2. Maximise the Benefit of Water for the Environment

Issue 1 – Volumes of Environmental Water are Important

- Full recovery of Environmental Water must be achieved urgently by using unspent funds from Efficiency Measures and SDLAM projects for voluntary buybacks of all 3,200 GL/yr of Environmental Water.

Issue 2 - Enhancing Environmental Water Delivery for Ecological Outcomes

- Environmental water should be managed to mimic more natural flow regimes, including variability in timing, magnitude, and duration.

Issue 3 – Need for Relaxation of Constraints

- Relaxation of Constraints must be implemented urgently to allow Environmental Water flows to be able to reach wetlands and floodplains.
- Some trials must be implemented to demonstrate to Basin communities that relaxing constraints could provide benefits throughout the tributary valleys and all the way to the end of the system.

Issue 4 - Multiple Benefits from Environmental Water/River Health Water

- Environmental water must be recognised as not only providing ecological outcomes but also community and Cultural benefits and should be renamed as “River Health Maintenance Water”.

Issue 5 - Integrating Climate Change into Water Planning

- Ensure critical water reserves in the Lower Murray are protected to maintain minimum Base Flows which protect ecological thresholds in prolonged dry periods.

Issue 6 – Maximise Environmental Outcome by Collaborative Governance

- Collaborative governance must be adopted to improve both ecological outcomes and community trust in the Basin Plan.

Issue 7 - Prioritising End-of-System Health

- The end-of-system CLLMM region must be prioritised during low flows to ensure the environmental health of the whole Basin.

Issue 8 - Supporting the Coorong’s Ecological Recovery

- The Ramsar wetlands of the Coorong must be maintained as a healthy ecosystem.
- Modelling and some flushing of the Coorong South Lagoon should be trialled?

3. Improve River Connectivity in the Northern Basin

- Enhanced environmental flow management to deliver flows that better reflect natural variability and support system-wide connectivity.
- Upgrade or remove high-impact infrastructure to restore movement pathways.
- Enable more frequent and managed inundation of key wetlands to achieve floodplain reconnection.
- Reduce extraction pressure to maintain critical flow thresholds.
- Integrated monitoring and knowledge sharing by Combine scientific data with Traditional Owner knowledge to guide management.

4. Improve Floodplain and Wetland Health

Issue 1 – Insufficient Flows to Lower Murray Valley

- Implement the 2024 Constraints Relaxation Implementation Roadmap recommendation that higher environmental flows must be trialled and carried out in close partnership with communities and First Nations. As a first step, when increased flows are naturally occurring, CEWH water should be released to increase the flow to 35,000 ML/day, the minimum flow necessary to benefit the Lower Murray floodplains.
- As an initial step CEWH should immediately allow 15,000 ML/day through the Mid Murray- up from 9,000ML/d at present.

Issue 2 – Impact of Climate Change on Lower Lakes

- It is particularly important to have enough freshwater in the system at all times to maintain coverage of the extensive areas of acid sulphate soils in the wetlands of the Lower Murray and Lakes Alexandrina and Albert (0.4m AHD). The increased risk of this occurring due to Climate Change needs to be addressed now not in 2036.

Issue 3 – Water Quality Issues due to Dry Wetlands

- There needs to be enough water in the system for Minimum Base Flows in the river to flow and wetlands to be filled.
- Improved monitoring of water quality needs to be addressed urgently to identify sources of pollutants impacting ecosystems, and human health to reduce the risk of BGA blooms and other River health issues.
- It is important to adequately water upstream wetlands in an attempt to reduce nutrient load, by vegetation uptake, and reducing the amount of detritus which then washes out in floods causing Blackwater events.

Issue 4 – Harmful Algal Bloom in SA Marine Waters around the Murray Mouth

- The Blue Green Algal outbreaks in the Lake and elsewhere upstream along the length of the Basin, as well as the 2025 and on-going HAB experienced in SA marine water highlight the need to monitor and reduce the level of nutrients and agricultural pollutants entering into the waterways at their source.
- Prevention is the only tool available to curb the increasing threat of algal blooms made more likely with a changed climate causing higher temperatures and lower flows.

Issue 5 – Salinity of the Coorong Southern Lagoon

- Greater use of automatic barrage gates at Tauwichee, timed with high tides and wind direction could maximise the flush of necessary fresh water along the Coorong.
- River Murray water flows through the barrages and SE flows must be maximised.

Issue 6 – Maintaining freshwater in Lakes Alexandrina and Albert.

- The question of maintaining the 80+ year old barrages and making them fit for purpose in the face of sea-level rise with raising of the height and increased automation to better serve the needs of the Coorong must be addressed.
- With regard to the problem of acid sulphate soils seen during the Millennium Drought, science has shown they need to be covered with fresh water, not salt water (Prof Rob Fitzpatrick). Saltwater coverage makes the problem worse.

Issue 7 – Control of European Carp

- We advocate for a widespread trial of conventional methods to remove carp from the system.

5. Respond to Native Fish Decline

Issue 1 - Restore Floodplain and Wetland Nursery Habitats

- Full commitment of 3,200GL of stated environmental flow. To date, not achieved.
- Measurable long-term targets and progress toward ecological recovery (like the success of the ‘Native Fish Strategy’ objectives 2003-2013).
- Reconnect priority floodplain and wetland nurseries.
- Modify levees and regulators that are blocking natural flows.
- Protect wetlands (through compliance) from irrigation drainage, pollutants, pesticides, herbicides and other water quality impacts.

Issue 2 - Restore Riparian Vegetation and Habitat

- Identify priority river areas for riparian habitat restoration and fund large-scale projects with clearly state local targets. Include riparian tree planting – basin wide - through Commonwealth funded program.
- Livestock exclusion fencing – include regular compliance monitoring here.
- Re-introduction of woody debris (“snags”) into rivers - (all removed in recent times). Woody debris provided perfect habitat for fish like the Murray cod & other native fish species.

Issue 3 - Require Fish Screens on Irrigation Diversion Pumps

- Introduce a Basin-wide regulation requiring fish-screening of all new irrigation pumps immediately and retrofitting of existing pumps within 1 year.
 - Fine mesh screens prevent eggs, larvae and juvenile fish from being drawn into pumps.
 - Standards should specify maximum mesh size, approach velocity and self-cleaning design.
- Federal–state cost-share program for retrofitting.
- Mandatory compliance through water licence conditions.

Issue 4 - Address Cold-water Pollution from Dams

- Require multi-level offtakes or thermal pollution mitigation systems on major storage dams.
 - Allows warmer surface water to mix with colder bottom water before release.

Issue 5 - Large-scale Invasive Carp Suppression

- Launch a basin-wide carp control program/industry that does not include the introduction of a toxic virus into already oxygen deprived polluted waterways.
- Establishment of a Centralised Carp Processing Facility.

Issue 6 - Species Dependant on Native Fish

- The role of refuge areas and waterways in the landscape of River mussels and their host (native) fish in the glochidium stage be recognised and the flow required to maintain the physical places in the water network be understood and incorporated into flow management plans.
- It is essential to deliver the ecological & economical outcomes under the Basin Plan

6. Managing Water Quality

Issue 1 – Restore Natural Rhythm of River Flows.

- Base flows must be secured throughout the river systems to maintain sufficient water quality for all communities and for ecosystem health.
- If natural flushes don't occur on a regular basis, there must be a commitment to include a regular flushing function of waters of 80,000ML/d coming into South Australia to simulate a moderate flood to maintain healthy floodplains through to the CLLMM region.
- Negotiations or enactment of suitable legislation to enforce the ability to achieve regular flushing with minor flood levels is needed to be introduced to expedite this.

Issue 2 – More Water Quality Sites and Parameters must be Monitored.

- MDBA should be monitoring at more locations and a broader range of parameters including dissolved oxygen, temperature, nutrients, BGA, PFAS, fertilisers and pesticides, pharmaceuticals and bushfire run-off and sediments.
- This is especially the case in the CLLMM region where at least ten (10) more monitoring locations are required (as recommended by the SA EPA in 2016) to better understand and manage water quality issues in this ecologically complex region.
- MDBA need to work with First Nations people on how to best manage Water Quality throughout the River Basin.

Issue 3 – Meaningful Water Quality Targets must be Established

- Target Values for many pollutants need to be established and then monitored throughout the MDB on an individual catchment basis to identify where WQ issues are arising.
- Catchment-specific ecologically relevant water quality targets must be developed for all WRPs including targets for each component of the CLLMM region. Target values need to be Specific, Measurable, Achievable, Relevant and Time-bound, i.e. SMART.

Issue 4 – Water Quality Management must be a Whole of Basin Approach.

- Water quality management needs to be a whole of basin approach e.g. Flood Plain Management and “Blueprint to Restore Australia's Landscape” by The Wentworth Group of Concerned Scientists.
- Despite the fact that Basin States are predominantly responsible for land management, pollution control and natural resource management, the MDBA have **the responsibility** through the Basin Plan to identify where water quality of the Basin is suffering due to inadequate action or poor land management by the Basin States.
- In addition, MDBA must improve WQ Monitoring by establishing additional Water Quality monitoring stations and monitoring additional parameters throughout the Basin (as stated in Issue 1). A whole of basin approach to monitoring will allow “hotspots” to be identified where nutrients/ faecal material/ “for ever chemicals”/ pharmaceuticals/ fertilisers/ are being added to the River.

Issue 5 - Better Community Reporting of Water Quality

- To ensure community engagement, an accessible comprehensive centralised dashboard of current WQ monitoring data compared to target values must be established.
- Regular meaningful report cards (e.g. annual) including water quality, cultural and ecological performance against meaningful and appropriate targets must be prepared and made readily available to the public .
- A picture saves a thousand words. We recommend a detailed map of the CLLMM region be included with algae reports showing reporting locations and toxicity warnings?

Issue 6 – Control of Urban Pollution entering the Rivers of our Basin.

- We acknowledge that Town Wastewater and Drainage are State responsibilities, but MDBA must work with each State to promote recycling of wastewater effluent and establishing polishing ponds or wetlands to improve the quality of drainage water entering the River.
- As stated previously, MDBA must conduct additional Water Quality monitoring both in the number of monitoring locations and parameters monitored which will assist in the identification of pollutants from urban sources along the River.

Issue 7 – Control of the use of Pesticides in our Basin.

- Land users must have stronger regulation and enforcement in the use of pesticides to avoid contamination of waterways.

Issue 8 – Control of European Carp

- Alternatives to the Carp Virus to control European Carp in the MD Basin need to start immediately as these may be preferred regardless of the outcome of the evaluation of the carp virus. Alternative control measures include promoting/subsidising beneficial uses of the carp such as fertilisers, pet food, oils, etc. need to be started immediately.

Issue 9 – Need to Control Salinity Levels in the Coorong

- Modelling and trialling freshwater releases through the barrages to coincide with tidal and wind events that may most effectively get a turnover of water in the Southern Lagoon should be carried out.

7. Water Infrastructure and Critical Human Needs

Issue 1 – Managing Salinity in Lakes Alexandrina and Albert

- The barrages need to be kept in good working order for the duration of the plan’s future.
- The barrages may need to be redesigned or heightened to limit the amount of overtopping for the duration of the next portion of the MDB Plan.
- World’s best software needs to be introduced to allow operators to maximise the benefits to the Coorong from the reduced water volumes available.

- To offset sea level rise, if we want to keep the salinity down to a critical human needs level, more water will be needed in the lakes.

Issue 2 – Licensing and Maintenance or Removal of Aging Infrastructure

- The Basin Plan must require licensing of all infrastructure which are periodically reviewed and require unsuitable structures to be either rebuilt or removed.
- Many structure are going to need to be rebuilt, refurbished or moved over the next 20 years.
- River channels need to be dredged or reclaimed and River banks stabilised.

Issue 3 - Carp virus in relation to Critical Human Needs.

- Thousands of tons of dead and rotted carp will need to be removed throughout the catchment so that downstream impacts are minimised to allow the water quality to be suitable for critical human needs.

Issue 4 – Water Quality Targets must be Established for Critical Human Needs.

- Suitable longitudinal monitoring of pesticides and plant poisons must be undertaken. Funding must be forthcoming to enable this monitoring to be on-going indefinitely.
- There must be suitable compliance measures set into the system so that if these critical levels are exceeded, emergency measures can be taken immediately to remedy the water quality issues within a specified time and if not, penalties must be applied.

Issue 5 – Pro-active Measures must be taken for Climate Change Impacts.

- Climate Change is with us now, we can not wait until our crops fail to grow in the traditional locations, or our barrages no long keep the saltwater out. We must better understand future consequences of Climate Change and take pro-active action now to adapt and not wait till things fail before acting as this may be too late.

8. Improving Basin Plan Regulatory Design

Issue 1 – Credible Regulation requires stronger Compliance and Transparency

- Deliberative democracy must be enshrined into the MD Basin Plan to ensure community driven water management, law and decision-making is practiced.
- MDBA must implement these strong reforms, the Australian Government/Minister Watt would oversee them, independent audit bodies would ensure accountability, and state regulators would assist with on-ground enforcement.
- Enforcement/compliance findings in each State must be known/listed and made publicly available.
- Reporting required by WRP may be simplified but reporting on critical issues such as compliance with SDL and water quality targets must be toughened with penalties for late or non-compliance.

Issue 2 – SDLs must remain Science-based and Climate-ready.

- The Environmentally Sustainable Level of Take (ESLT) must be re-evaluated biannually, using updated climate and hydrological modelling, with precautionary protections where uncertainty exists. and
 - Additional Environmental Water needs, over and above the current 3,200 GL/yr, recovered,
 - SDLs for each WRP must be reassessed,
- Extractive Water Entitlements must be reduced by an equal % as River flows, SDLs and ESLT reduce due to Climate Change.

Issue 3 – Completion of all Water Resource Plans by 12/26.

- All outstanding WRP must be completed before the MDBP Review is issued. Penalties must be introduced for late delivery or non-compliance.

Issue 4 - Health of the River must be Primary Measure of Basin Plan Success

- Regulatory frameworks must explicitly prioritise end-of-system environmental outcomes and ensure flows are sufficient to maintain an open Murray Mouth and flush accumulated salt, nutrients and other pollutants from the system.

Issue 5 – Need to Promote Environmental, Social and Economic Outcomes.

- Control of land use and crop production are mainly State Government issues, but MDBA must set targets and objectives to push the Basin States to recognise the importance of environmental, social and economic outcomes?

Issue 6 – Priority for Water to Australian Sustainable Food Producers

- Water Markets must give priority to Australian sustainable food producers over export products.
- Water for the Environment must be prioritised over irrigation water used for exports, especially by large foreign owned companies who care little for Australia's environment.

9. Improve Science and Knowledge to Inform Basin Water Management

Issue 1 – Transparent and Reliable Modelling of Current ESDL.

- The Environmentally Sustainable Level of Take (ESLT) must be re-evaluated biannually, using updated climate and hydrological modelling, with precautionary protections where uncertainty exists. and
 - Additional Environmental Water needs, over and above the current 3,200 GL/yr, recovered,
 - SDLs for each WRP must be reassessed,

Issue 2 – Investigate and revise the Actual Volumes of Water recovered.

- Detailed investigation must be carried out urgently to determine the actual volume of water recovered, especially wrt Efficiency Measures as part of the 450 GL recovery program and the 675 GL/yr SDL Adjustment Mechanism.

Issue 3 – Develop System Specific Ecologically Relevant Water Quality Targets.

- Develop Specific Ecological Relevant Water Quality Targets for each ecosystem in the Basin.

Issue 4 – Support Improved Land Management Trials.

- The Federal Government should support science-based trials of improved land management practices.
- Investigations into adapting land use due to Climate Change.

Issue 5 – Guarantee Funding for CLLMM Research Centre, Phase 2

- The Federal Government must provide funding for Phase 2 of the CLLMM Research Centre asap to ensure continuity of the scientific program.

Issue 6 – Investigate the Impact of Sea Level Rise on the CLLMM Region

- Detailed investigation is needed urgently to determine the potential effects of Sea Level Rise on the CLLMM region.

OTHER ISSUES OF MAJOR CONCERN TO RLCAG:

1. Climate Change:

Issue 1 – Adjustments to Protect Environmental Flows due to Climate Change

- The Environmentally Sustainable Level of Take (ESLT) must be re-evaluated biannually, using updated climate and hydrological modelling, with precautionary protections where uncertainty exists. and
 - Additional Environmental Water needs, over and above the current 3,200 GL/yr, recovered,
 - SDLs for each WRP must be reassessed,

- Extractive Water Entitlements must be reduced by an equal % as River flows, SDLs and ESLT reduce due to Climate Change.

Issue 2 – Action to Protect Barrages from Sea Level Rise

- A study of the impacts of increasing sea water ingress into the lakes and Goolwa Channel must be carried out to identify what early actions are needed to mitigate adverse environmental impacts.
- A detailed structural integrity study of the barrages must be carried out to assess their adequacy including the impacts of Climate Change.
- The barrage gates need to be automated to allow more sophisticated control of water flows backwards and forwards through the barrages.

Issue 3 – Effect of Sea Level Rise on the Murray Mouth

- A study of the potential costs and benefits available for differing scenarios and potential solutions.

2. Environmental Health / Invasive Pests:

Issue 1 – Removal of Constraints for Native Fish

- There are many constraints in the form of weirs and other structures hindering the free movement of fish. The Removal of these Constraints by the States as part of the SDLAM projects must be expedited.

Issue 2 – Control of European Carp

- Options for the control of carp (other than a virus) need to be investigated and developed immediately and not wait for the outcome of the virus studies.

Issue 3 – Community Awareness of Ramsar Wetlands

- MDBA must fulfill the Federal Government’s commitment to care for Ramsar listed wetlands by doing more to increase community awareness such as suitable signage.

3. The Human Cost of River Health:

Issue 1 – Drive for Common Message for a Healthy River

- There are a lot of competing messages for the needs of people along the river, one message needs to be agreed and shared; “A Healthy River” - we need to find a better way to share the same message along the river.

Issue 2 – Need for Community Health Promotion Project

- The MDBA should develop a Community Health Promotion Project that may be used as a model throughout the MDB.

Issue 3 – Need for Guidelines for Urban Development in MD Basin

- MDBA must develop Guidelines for urban developments in the MD Basin which will protect the River from further urban pollution.

4. The River as a “Living Entity”:

Issue 1 – Recognition of the River as a “Living Entity”.

- The MDBA must find ways to support a growing national & global understanding that Rivers are more than ecological assets, commodities to be traded, extracted to extinction, used as waste dumps and reduced solely to servitude.

5. Water Justice for First Nations.

- Truth telling and meaningful engagement with the appropriate Cultural Authority.
- “Closing the Gap” principles implemented and enforced to change the way Governments work with Traditional owners by:
 - Formal partnerships and shared decision making
 - Building the community-controlled sector
 - Transforming government organisations
 - Shared access to data and information at a regional level
- Jurisdictional targets for inland waters to improve water management outcomes for Indigenous communities.
- Increase collaboration and engagement between governments, Indigenous communities, and other stakeholders are crucial for advancing Aboriginal water rights.

- Indigenous, cultural water must be recognised as a separate entity - not a re-labelling of environmental water. There should be a specific, separate allocation and funds provided to secure adequate water, fit for purpose.