ENVIRONMENTAL JUSTICE AUSTRALIA

Submission to the Murray-Darling Basin Authority in response to

The Basin Plan Review (including submissions relevant to the Review of the operation of the Water Act)

prepared by Environmental Justice Australia

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Summary of key submissions

The Review

1. The style and manner of the Basin Plan Review (**Review**) to date have likely impeded rather than enabled public understanding and participation in the Review process.

2. The Report of the SA Royal Commission[1] was and remains the authoritative assessment of the Murray-Darling Basin Plan (**Basin Plan**) and its administration to the date of its publication. The Murray-Darling Basin Authority (**Authority/MDBA**) should expressly engage with the key findings and analysis of the Royal Commission's Report.

SDLs/ESLT and the scientific-technical base

3. There is a real risk the Authority is misdirecting itself on the proper or correct legal construction of the terms 'sustainable diversion limit' (**SDL**) and 'environmentally sustainable level of take' (**ESLT**) in its 'assessment' of SDLs for water resource units.

4. It is not open to the Authority to conclude on its 'initial assessment' that certain SDLs evaluated 'continue to reflect an ESLT.' Further, it is not open to the Authority to accept that SDLs, as set in 2012, provide a lawful or correct basis for the present Review or properly inform the Discussion Paper.[2]

5. There are real questions as to whether the purported scientific basis of the SDL 'assessment' is sound.

6. It is not possible to conclude that the 'initial SDL assessments' informing the Review represent 'best available science.'

7. The precautionary principle must be engaged in the task of setting the SDLs/ESLT.

8. The SDL range set out in the *Guide to the Proposed Basin Plan*[3] ('**the Guide**') continues, in the absence of updated science, to provide the appropriate and valid recovery amounts (combined with confidence values).

9. The technical base (including 'best available science') informing the Review must include and address the full ambit of relevant peer-reviewed literature, its findings and opinions.

Environmental conditions in the Murray-Darling Basin

10. Actual conditions in water ecosystems of the Murray-Darling Basin (**MDB**) generally continue on a trajectory of decline. In certain circumstances, environmental outcomes may be stabilizing and, where approximations of natural flow regimes are reinstated, recovery can be

[1] Bret Walker, *Murray-Darling Basin Royal Commission Report* (29 January 2019) ('Walker 2019').
[2] Murray-Darling Basin Authority, *2026 Murray-Darling Basin Plan Review: Discussion Paper* ('Discussion Paper').
[3] Murray-Darling Basin Authority, *Guide to the Proposed Basin Plan* (8 October 2010).

shown. But overall outcomes are not improving and serious ecohydrological risk is evident in key ecosystems.

11. Environmental water holdings portfolios exhibit substantial risk, specifically as associated with the 'reliability' profiles of water holdings. Underpinning values of the interests held by environmental water holders (water entitlements) are overstated and environmental water holders may be said to be sitting on 'sub-prime water.' These are matters the Review should consider.

The SDLAM

12. The sustainable diversion limit adjustment mechanism (**SDLAM**) should be discontinued in its present form, with certain programs anticipated under the SDLAM (such as constraints relaxation and 450GL additional environmental water) being separately progressed and advanced under an amended Basin Plan.

Connectivity

13. Floodplain easements under a 'constraints relaxation' program must be progressed as a matter of priority, including as required or expedient, by way of compulsory acquisition of relevant property rights attached to private landholdings.

14. Good faith protections from liability for environmental water managers undertaking environmental watering actions should be established in all jurisdictions and/or through amendments to Commonwealth law.

15. Longitudinal connectivity of the northern rivers is the norm under natural and sustainable conditions. Water resource planning rules prioritizing environmental outcomes before 'take' should commence, setting out water infrastructure decommissioning and/or re-engineering programmes. Providing for improvements in water administration must be included in the Basin Plan, especially for northern MDB water planning areas.

16. Water infrastructure decommissioning programs should be identified and accounted for in the Review.

Water resource plans

17. Dilution of the regulatory scope and effect of water resource plans should be resisted. Water resource plans are inherently a prescriptive regulatory device within the cascading legal and policy architecture of MDB water resource management (with international environmental treaties at the apex of these arrangements).

18. The *Water Act 2007* (Cth) (***Water Act***) and Basin Plan should be amended to require the Commonwealth Minister (on the advice of the Authority) to prepare and insert into water resource plans, by regulatory instrument, provisions reasonably capable of allowing 'environmental watering requirements' to be met for a water resource plan area, where the Minister cannot be reasonably satisfied those 'environmental watering requirements' will be met by the scheme of a water resource plan (or draft water resource plan).

19. Water resource plans must necessarily raise the standard of administration of Basin water resources, in recognition that Parliament intended Basin water resources to be managed in the national interest.

20. Water resource planning should include priority water rules safeguarding environmental water and watering outcomes and critical human water needs.

Managing climate risk

21. The 'initial assessments' of SDLs/ESLT do not reflect climate risk or provide a proper basis for climate risk management. The Basin Plan presently does not manage climate risk. SDLs/ESLT must be set in accordance with methods recognising and addressing unfolding and anticipated climate change and climate risk. Design and operation of priority rules for water planning under the Basin Plan (including water resource plans) must include measures accounting for climate change and climate risk. Under such rules, priority is to be given to protection of environmental water and 'environmental watering requirements' in management of Basin water resources.

22. The Basin Plan should provide for a mechanism of adjustment or indexation of the actual availability of water resources accounting for climate change impacts, including priority rules for water availability to critical human needs, the environment, and other consumptive needs (in that order).

Aboriginal water estates

23. Existing consultation provisions for Aboriginal peoples under the Basin Plan are seriously deficient. They convey neither the effective rights and interests of Aboriginal peoples in Basin water resources nor reflect relevant international law.

24. Basin Plan measures concerning Aboriginal rights and interests in Basin water resources must do so in the context of promoting the right to self-determination as it relates to those resources.

25. Basin Plan measures benefiting Aboriginal peoples should reflect relevant international instruments (including but not limited to the *United Nations Declaration on the Rights of Indigenous Peoples* (**UNDRIP**)).[4] Whatever legal formulae are used, minimum legal standards must give effect both to effective procedure and exercise of power by Aboriginal people over Basin water resources decisions and programmes. Provisions for Aboriginal involvement in Basin water resources management must be capable of effecting actual outcomes and reflect the existence and exercise of an Aboriginal jurisdiction over Basin water resources.

26. In the Review, the Authority and Commonwealth should 'consult in good faith in order to obtain consent' of Aboriginal peoples in the MDB for any amendments to the Basin Plan.

[4] Office of the High Commissioner for Human Rights, *United Nations Declaration on the Rights of Indigenous Peoples: A Manual for National Human Rights Institutions* (13 September 2007).

27. Measures should be established by which Aboriginal cultural or traditional knowledge is incorporated into 'best available science and socio-economic analysis.'

28. The *Water Act* should be amended to provide arrangements for Aboriginal people to submit administrative (policy) or regulatory measures to the Authority, for consideration by the Authority.

Critical human water needs and the right to water

29. The right to water (as a human right) should be incorporated into the Basin Plan and reflected in the design and operation of priority rules drafted into water resource plans.

Review of operation of the Water Act

30. Any review of the *Water Act* must be careful to avoid recommendations or outcomes that seek to mitigate or limit the legal effect of the *Water Act* in order to meet deficiencies in its implementation, including deficiencies in design or operation of the Basin Plan.

Introduction

31. Environmental Justice Australia (**EJA**) is a public interest legal practice, based in Melbourne but undertaking work around Australia. EJA was formerly known as the Environment Defenders Office Victoria until 2014. EJA is a community legal centre, specialising in environmental law, natural resources management law, water law and related fields. We act on behalf of community and public interest clients, as well as engaging in public advocacy on issues relevant to our expertise and specialisations.

32. EJA has long been engaged actively in law and policy as it relates to the Murray Darling Basin, from at least passage of the *Water Act* in 2007 and preparation of the Basin Plan to the present day. We have and continue to work collaboratively and closely, as circumstances permit, with environmental groups and non-governmental organisations, scientists, Aboriginal organisations, academics, and other legal practices on issues and concerns relating to the MDB.

33. These submissions traverse key issues identified in the Discussion Paper, mandatory considerations set out in the *Water Act*, and matters intrinsic to proper and effective understanding of the Basin Plan (in terms both of its design and operation). In doing so, we acknowledge and, in large part rely on, the fact that vast amounts of analysis, scrutiny and interrogation of the Basin Plan in its present iteration, its implementation, and effect in the world have been undertaken over the past decade and a half. That fact is unsurprising given both intense public and political interest in the *Water Act* regime (including the Basin Plan) and the complex realities of the MDB. While the scheme of the *Water Act* and the Basin Plan plainly evinces complexities, in certain respects core legal and policy principles, propositions and sources of the Basin Plan are more straightforward. The Basin Plan scheme is to reflect and deliver on framework environmental legislation (namely, the *Water Act 2007* (Cth)), be environmentally restorative in character, focus on control of diversions of water from natural systems, and implement international environmental treaties to be given constitutional validity.

34. A review of the Basin Plan should include an assessment both of its operation to date, as well as of the prospect of achieving its purposes going forward.

Scope of the Review

35. Subdivision G of Division 1 of Part 2 of the *Water Act 2007* (Cth) provides for the Basin Plan to be reviewed. For present purposes, sections 50-51 are the main operable provisions setting out the scope and task of this review.

36. The sole mandatory considerations contained in section 50 require the Authority, in its review, to consider and report on climate change risk and matters relevant to Aboriginal people as set out in subsections (4A)(a)-(b), the scope of the latter broadly aligning with matters to be addressed in water resource plans, as well as the additional issue of 'opportunities for participation that incorporates [sic] free, prior and informed consent' of Aboriginal people in Basin water resources management.

37. Otherwise, the scope of the Review appears to be framed in terms of those issues the Authority determines in its Discussion Paper are 'to be addressed in the review.'[5] We take it from the Discussion Paper that at least the following issues are considered by the Authority to be within scope of the Review, for the purpose of s 51(4) of the *Water Act*:

    a. SDL(s) and their assessment

    b. Environmental water management

    c. Hydrological connectivity and its ecological dimensions

    d. Native fish populations

    e. Water quality

    f. Critical human water needs

    g. Water resource plans design and delivery

    h. Water accounting

    i. Water trading

38. We would suggest, additionally, that it is implied in the statutory function of the review that Parliament's intention in providing for the Review is to assess whether and/or to what extent the Basin Plan is achieving its purposes,[6] and what may or may not need to be done, including what actions may or may not need to be taken, in order to ensure the Basin Plan can achieve those purposes.[7] The Authority would appear to be proceeding on that basis.[8] That construction is appropriate given review may lead to amendment of the Basin Plan (s 52 *Water Act*).

39. Our submissions below are directed to most, if not all, of these specific matters and what we take to be the general purpose and scope of the Review exercise.

Additional comments on the Discussion Paper

40. The *Water Act* intends the Authority's Discussion Paper to be instrumental in the review of the Basin Plan. In this respect, the approach and contents of the Discussion Paper may be

[5] *Water Act 2007* (Cth), ss 51(4).
[6] *Water Act 2007* (Cth), s 20.
[7] See also Walker 2019, 130: 'The main special measure by which the objects are to be achieved is the Basin Plan…'
[8] See further: *MDBA Initial SDL Assessment: Summary of Assessment Approach* (2026), 1: 'In conducting the Basin Plan review, the Authority is considering whether the Basin Plan is delivering on its purposes.'

said to be decidedly unhelpful. Specifically, the approach taken appears more in the nature of a concluded review on which comment is sought, rather than a reasoned framework for eliciting public comment on the design and performance of the Basin Plan. We consider it appropriate and helpful for a Discussion Paper to be accompanied by underpinning technical documents used to inform the Paper.

41. Further, the Discussion Paper appears not to be informed in any real way by a review of the scheme set up by the *Water Act*, its policy basis and history, and it does not set out what we (as submitters) are being asked to do and why. There is no useful summary review of relevant literature, context or history. No coherent methodology to the Review is provided. Terms and phrases used in the Discussion Paper often conceal as much as they reveal (for example, those associated with SDLs and 'initial SDL assessments').

42. The capacity for lay and interested audiences, of which there are many including those we work with, to engage in the Review in an informed way through the Discussion Paper is, in our view, significantly compromised. For the above reasons, we submit that the style and manner of the Review to date has likely impeded, rather than enabled, public understanding and participation in the Review process.

The continuing relevance of the Report of the South Australian Royal Commission into the Murray Darling Basin

43. A form of review of the Basin Plan, its legality, and its implementation, to the end of the 2010s at least, has been undertaken. It occurred through the South Australian Royal Commission into the MDB, an exercise overseen and delivered by Commissioner Bret Walker SC. Although that Royal Commission was conducted by and for the State of South Australia, and the Commissioner himself formally expressed the function of the Report as precedent to and informing review of the Basin Plan,[9] in our view none of that detracts from the formidable and, to date, unparalleled, inquiry into the Basin Plan that the Royal Commission and its Report represents. Indeed, this all reinforces the compelling role of the Royal Commission and its Report as a – or the – key stepping off point for the present Review.

44. The Report of that Royal Commission is a review of the state of management of the water resources of the MDB generally, but it is fundamentally distilled through the Commissioner's interrogation, analysis, findings and recommendations on the instrument of the Basin Plan and its implementation.[10] The Basin Plan is the central legal and public policy instrument for the management of those water resources as a whole.[11]

[9] Walker 2019, 47.
[10] See in particular terms of reference 1, 2, 3, 5, 6, 7, 9-12 of that Royal Commission; Walker 2019, 5-7.
[11] Walker 2019, 18: 'It is by means of the Basin Plan that the objects of the *Water Act* are, in the main, to be achieved. The purpose of the Basin Plan is the integrated management of the MDB water resources including by providing for 'the establishment and enforcement of environmentally sustainable limits on the quantities of surface water and ground water that may be taken' (para 20(b)).'

45. It is fair to say that the Royal Commission Report is an expansive, forensic and, in certain respects, a scathing assessment of the Basin Plan and its administration. As the Authority is no doubt aware, in his Report, the Commissioner found *inter alia*:

a. The setting of the long-term average Sustainable Diversion Limit for the MDB, and the volumetric outcome of that exercise, was unlawful, in that it did not (at the time the Basin Plan was made) reflect an 'environmentally sustainable level of take,' as required by section 23 of the *Water Act*.

b. Central to this finding was the fact that the SDL/ESLT was not determined according to the 'best available scientific knowledge.' Failure to design and administer the Basin Plan on the basis of science and transparent information was found to permeate many, if not most, aspects of the Basin Plan and the Authority's administration in general.

c. Actions taken to adjust or recalibrate the cap on water extraction (the SDL), or otherwise to update or progress how Basin water resources are managed (including the SDLAM, constraints relaxation, efficiencies measures, and the Northern Basin Review), were ill-designed, fundamentally flawed, or poorly implemented.

d. The key implementation device of water resource planning is infected by the unlawfulness referred to above and failures of particular Basin States to prepare water resource plans (**WRPs**).

e. The policy basis of Aboriginal engagement in Basin water management is not coherent and, notwithstanding considerable effort on the part of Aboriginal communities and organisations, their genuine involvement in the Basin Plan and its administration has been deficient, a lost opportunity, 'procedurally inadequate and culturally inappropriate.'[12]

46. Our submissions are informed by the Royal Commission and its Report, in particular on issues noted above. EJA accepts and relies on many of the key findings and propositions of the Royal Commission Report. No serious or compelling arguments or responses have come forth, as far as we are aware, to discount or diminish or qualify its contents, in particular the Commissioner's conclusions on legality of the Basin Plan and the legal construction question. In expressing this view, we note the Authority's response to the Royal Commission Report.[13] The Commissioner's status and experience as a senior and eminent public lawyer adds substantial weight to those conclusions. We accept that in certain respects events and developments have moved on from the Report and we engage with those developments below as relevant. Some of those developments are improvements to the operation of the Basin Plan, such as development of the scientific base of Basin water management and

[12] Walker 2019, 64.
[13] Murray-Darling Basin Authority ('MDBA') 'Authority responds to South Australian Royal Commission report' (Media Release, 20 February 2019).

amendments contained in the *Water Amendment (Restoring our Rivers) Bill 2023* (Cth); some are deteriorations, such as the status and continuing notoriety of SDLAM projects and water resource planning.

47. The procedure of the Royal Commission itself is worthy of attention. Notwithstanding obstruction from key quarters, such as the Commonwealth and the Authority (which may have led to gaps in the evidence base before the Commissioner), the Royal Commission received and relied on thousands of pages of documentary evidence, heard from dozens of witnesses (both lay and expert) over many hearings days, which allowed for scrutiny of questions and issues (notably legal ones) that went to the heart of the Commissioner's task.

48. All of this occurred in the public domain, subject to the ordinary procedures of quasi-judicial testing and rigor. The product – the Report of the Royal Commission – was compelling, lucid, and forensic. The Commissioner made recommendations which realistically sought to put the Basin Plan and management of Basin water resources back on a legal, proper and effective footing, one that would accord with the *Water Act* and the 'special and defining quality'[14] of its environmental project. Implementing those recommendations may have, in addition, remedied the profound administrative and legal failings found by the Commissioner. In any case, as the Commissioner anticipated, that inquiry and report may now inform this present review, anticipating remedies by way of necessary legislative amendments.[15]

49. We submit that the Report of the SA Royal Commission was and remains the authoritative assessment of the Basin Plan and its administration to the date of its publication, namely 29 January 2019.

50. It remains curious, if not entirely baffling, that none of the Authority, the Commonwealth or the MDB States sought to engage, in any substantive way, with the Royal Commission Report at the time of its publication or since. We submit that it is still baffling that the Authority appears to make no material effort to engage with the key findings and analysis of the Royal Commission Report in the Discussion Paper or accompanying documents. We can only surmise that this conduct is a gratuitous strategy of denial of the key findings or assertions of the Royal Commission, rather than ignorance of its existence.

51. We submit that the present, official, Basin Plan Review nevertheless provides scope and opportunity to engage with the Royal Commission's key findings and assertions.

The SDL and the ESLT: the legal construction question

52. A SDL for the entire MDB, combined with SDLs for each water resource unit, lie at the heart of the Basin Plan and *Water Act*. That much is accepted by the Authority in its Discussion Paper.[16] The SDL is, as Commissioner Walker expressed it, the 'ultimate quantitative

[14] Walker 2019, 17.
[15] As anticipated by *Water Act*, s 52.
[16] Discussion Paper, 19: 'Sustainable diversion limits (SDLs) sit at the core of the Basin Plan.'

control'[17] contained in the *Water Act*. This is to say, then, that the quantitative and volumetric cap on diversions for human use is the centrepiece of the scheme.

53. In this context, we make the following submissions on the Discussion Paper:

    a. There appears to be the real risk the Authority is misdirecting itself (or continues to misdirect itself) on the proper or correct legal construction of the SDL in its 'assessment'.

    b. There appears to be a real risk the Authority is, in its 'assessment', conflating the volumetric control of the SDL with complementary and parallel mechanisms such as water delivery and infrastructure strategies.

    c. The scientific and evidence base (including methodology) used in the 'initial assessment' is questionable, at times opaque, and substantially disengaged from a large body of authoritative and relevant scientific work.

    d. Considerations of how the Basin Plan generally, and the SDL(s) in particular, have functioned in practice appear to seriously diminish, downplay or obfuscate *actual environmental outcomes* to streams, wetlands and water ecosystems across the MDB. Evidence of continuing trajectories of ecological decline, on which the Discussion Paper is at best allusive, include near collapse of the Darling/Baaka system and, most recently, the listing of the lower Murray system as a whole as 'critically endangered'[18] and the Macquarie Marshes as 'endangered'[19] under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

54. In our submission, it is not open to the Authority to conclude on its 'initial assessment' that certain SDLs evaluated by it 'continue to reflect an ESLT.'

55. Further, it is not open to the Authority to conclude that any SDL may be evaluated as reflecting an ESLT.

56. It is not open to the Authority to accept that the existing Basin-wide SDL, as set in 2012, was a lawful or correct basis for the present Review or, as such, properly informs the Discussion Paper.

57. Issues and errors in interpretation of legal provisions governing the setting of SDLs were a key topic of the Royal Commission and were engaged with at length in the Report of the Royal Commission. The key provisions are section 23 of the *Water Act*, read in combination

[17] Walker 2019, 19.
[18] Department of Climate Change, Energy, the Environment and Water (Cth) (DCCEEW') *Approved Conservation Advice for the River Murray downstream of the Darling River, and associated aquatic and floodplain systems* (Report, 2026).
[19] DCCEEW *Approved Conservation Advice for the Wetlands and inner floodplains of the Macquarie Marshes* (Report, 2026).

with the objects of the Act, relevant statutory definitions (including, by extension, relevant treaty provisions), the purposes of the Basin Plan and the bases on which the Basin Plan is to be prepared. As far as we are aware, no authoritative opinion has been forthcoming from any quarter that seriously challenged the findings of the Commissioner as to questions of law with which he engaged. In our own view, the Commissioner's findings and opinions in respect of legal construction of the SDLs (being the MDB-wide long-term average SDL as well as SDLs for each Basin water resource) are sound and they reflect a correct understanding of the law and should be treated as authoritative for present purposes. Earlier legal opinions draw comparable conclusions.

58. In our submission, the Commissioner's findings and opinions as to the law and legal construction of the setting of SDLs remain authoritative, should guide the Authority's approach to the SDLs in the Review process, and should be engaged with expressly by the Authority in this process.

59. We refer to the Commissioner's findings on construction summarily here, in order to respond to the approach presently taken by the Authority in the Review (as expressed in the Discussion Paper and accompanying documents). In short, the Commissioner found that the setting of the SDLs in Basin Plan 2012 was unlawful because it did not reflect a legally correct determination of the ESLT. Legal error in interpreting and determining the ESLT led to cascading legal errors in design and application of the SDL.[20] Key elements of the Commissioner's statutory analysis include:

    a. The principal function of the SDL is to establish a quantitative mechanism by which to achieve the purposes and objects of the *Water Act*, namely 'to address the mischief of the over extraction of water resources in the Murray-Darling Basin… and to return extraction to an environmentally sustainable level of take…'[21]

    b. This task is to occur within the context of and enable implementation of environmental treaty obligations, a key constitutional basis for the *Water Act* and Basin Plan, and apply principles of ecologically sustainable development in this context.

[20] See further: Walker 2019, 190:

> As evidenced by the detailed statutory analysis that appears in Chapter 3, consideration of the powers and functions of a statutory authority must start with, and be informed by, a proper understanding and interpretation of the relevant legislative provisions that underpin them.
> The same is true for the fundamental task allotted to the MDBA of determining the ESLT. This task lies at the heart of the objects and purposes of the *Water Act*, and their implementation by way of the Basin Plan.
> If the starting premise is wrong, the process that follows is necessarily infected with the same error. So it is, in the case of the MDBA's ESLT determination. The MDBA proceeded on an incorrect interpretation of the *Water Act*, which then infected the MDBA's methodology, process and ultimate determination. The starting point was fundamentally wrong. The intended end point cannot be reached until that has been corrected.

[21] Walker 2019, 129.

c. An SDL is a quantified (volumetric) expression of an ESLT, at least over a long-term average. It is both scientific and legal in character, relying on a correct legal understanding of key terms and their inter-relationships and on scientific knowledge of key environmental values. Those environmental values are the values enumerated under the statutory definition of 'environmentally sustainable level of take'. On its proper construction, the ESLT is a standard of ecological protection and recovery of those values. The ESLT and hence the SDL are environmental categories. These are determined by quantification (and to that degree, prescription) of that threshold of 'take' of water resources that would avoid 'infliction of, of acceptable risk of, material damage' to those ecological values, combined with space for 'realistic prospects' for recovery[22] of those values from degraded states. The SDL is a scientific product based on a legal standard.

d. The SDL is not a product of trade-off of environmental and social or economic considerations. Such an approach is legally incorrect. Determining the ESLT is 'logically anterior' to any task of 'optimising economic and social outcomes.'[23] The trade-off approach was taken in drafting and design of the final version of Basin Plan 2012 and it is a key source of unlawfulness of that instrument.[24] In the Commissioner's words, the current (2012) SDL is the product of a 'political compromise.'[25] The result was the 2,750GL recovery amount (leaving aside the various subsequent adjustment figures).

e. The *Water Act* prescribes, in setting the SDL/ESLT, that the Authority must proceed scientifically and the output must be scientific, indeed be based on 'best available science.'[26] In the Commissioner's view, the best available science was contained in *The Guide to the Proposed Basin Plan*[27] but that science was not used in the setting of the SDL/ESLT. Indeed, the approach taken ultimately to setting the Basin Plan SDL was 'unscientific' in the Commissioner's view.[28] At the very least, analytical steps and procedures taken by the Authority were so obscure, opaque or inexplicable that the approach could not properly be described as scientific. In the Commissioner's view, that pattern was repeated, if not amplified, in addressing climate change, justifying the SDLAM, and undertaking subsequent technical reviews and exercises impacting on SDL quantification (such as efficiency measures, the Northern Basin Review, and so on). For reasons we set out below, the current Review exercise appears readily to reproduce these very real errors and concerns. Not least, as far as we can determine, the Review process appears not, in any significant or sustained way, to have engaged

[22] Walker 2019, 147.
[23] Walker 2019, 156.
[24] Walker 2019, 225: 'The SDL, as set in 2012, did not reflect an ESLT and was thereby unlawful. The passage of time has not cured that illegality, nor has any adjustment or process that has occurred in the interim. Chapter 7 demonstrates that what was unlawful then, remains unlawful now.'
[25] Walker 2019, 215ff.
[26] *Water Act*, ss 21(4)(b).
[27] Walker 2019, Ch 4.
[28] Walker 2019, 212-215.

with or relied on the large volume of peer-reviewed scientific work (in both physical and social sciences) generated in the decade subsequent to enactment of the Basin Plan, nor, seemingly, has it proceeded on the basis of clear disclosure and testing of models, techniques and scientific outputs, an approach that cannot (to this point in time) be considered as consistent with the *Water Act*.[29]

60. As to the Authority's current approach to legal construction of the SDL/ESLT, we note that the Discussion Paper and accompanying documents reiterate the requirement for the SDL(s) to reflect an environmentally sustainable level of take. That express statement is unsurprising given centrality of the proposition to the *Water Act*. What is far more concerning, however, is the misdirection evident in these documents, based on what appears to be persisting errors of construction, or perhaps merely confusion, or both, as to the SDL/ESLT and its operational role in the scheme of the *Water Act*.

61. We submit that in preparing a final report under subsection 50(5) of the *Water Act*, the Authority must expressly engage with the construction question and set out clear analysis and conclusions as to correct legal construction of the SDL/ESLT provisions and how that construction is applied to review of the SDLs. Our submissions on the question of correct construction are set out above and accord with the analysis and conclusions of the Commissioner.

62. As to continuing concerns with construction of SDL/ESLT provisions seemingly relied upon in the Discussion Paper and accompanying documents, we highlight the following:

    a. The Discussion Paper and other documents assert that, in respect of the 'initial SDL assessment', the task pursued is 'whether they [SDLs] *continue to* reflect an environmentally sustainable level of take'[30] (emphasis added). In our submission, this statement is incorrect, misrepresents the task of any such assessment, and may reflect in part the manner in which the Authority is misdirecting itself. Any assessment may not commence from the question as to whether the SDLs 'continue to' reflect an ESLT. For reasons summarised above (together with further submissions and analysis below), the Review cannot reasonably proceed on the basis

[29] See further: Walker 2019, 710: 'All the functions to be performed by the MDBA under the *Water Act* are ones that properly lend themselves to public scrutiny. For example, the word 'available' in the context of science immediately suggests 'available to the scientific community' and hence also the public. It clearly implies that the science is either already available to the public, or that it is to be made available by the Authority. Further, 'scientific knowledge' relates to the pursuit, research into or implementation of science. As many witnesses who gave evidence at the Commission hearings stated, the process of 'science' involves something — a theory, a model, a conclusion, a finding, a discovery — that is capable of being tested, and proved wrong. This self-evidently implies the sharing of all information in order for that scientific knowledge to be properly checked. Knowledge that cannot be scrutinized because of a lack of information is not science. Equally, scientific knowledge not publicly disclosed obviously cannot be checked'.

[30] *Discussion Paper*, 19; MDBA *Initial SDL Assessments: Summary of Assessment Approach* (2026), 1.

that the current SDLs reflect an ESLT.[31] Indeed, the correct question is more in the nature of 'what, at the present time, is the correct or valid SDL?' or, alternatively, 'how are shortcomings or errors in the setting of the current SDL to be remedied or rectified in order to set a lawful SDL at the present time?'

b. The misconstruction issue seems to persist in inferences that the SDL is predicated on a form of 'triple bottom line' approach, or that its setting involves economic and social calculations concurrently with environmental ones.[32] We refer again to the Report of the Royal Commission: the setting of the SDL is entirely an environmental proposition, in relation to which 'optimisation of economic and social outcomes' are subsequent matters. Consistent with points above, we submit that the correct legal basis for setting the SDL(s) should be expressly and clearly articulated.

c. 'Assessment' of the SDL(s), for the purposes of the Discussion Paper, assumes the SDL Adjustment Mechanism validly and/or reasonably reflects a basis for achieving an ESLT with less water. 'Line of enquiry 1' pursues this assessment as against 'projects considered complete and operational as at 30 June 2024'. 'Line of enquiry 2' assumes full delivery of the SDLAM or, via buy backs, compensatory measures. Even leaving aside the patent error that the pre-SDLAM determination of the SDL was lawful or correct, it is almost certainly the case that the 'offsetting' character of the SDLAM was and remains flawed and there is little real basis on which to assume SDL calculations relying on the SDLAM reflect an ESLT. We submit that scenario modelling in Lines of Enquiry 1 and 2 cannot validly or correctly inform an 'assessment' of the SDL(s).

d. 'Assessment' methods importing consideration of climate risk ('Line of enquiry 3') adopt forms and models of climate science in the 'initial SDL assessment.' That is an improvement on the reliance solely on historical data criticised by the Commissioner in the SA Royal Commission. What is of concern nonetheless, and which appears further to confound reliability of the 'initial assessment', is:

    i. Incorporation of climate science and considerations of climate risk as *anticipated* (future) matters rather than as, additionally, matters presently affecting an ESLT and SDL calculations. That is to say, climate change is a *current and ongoing* factor to be addressed in setting the SDL. Its currency in relation to the ESLT is readily assessable through, for example, the approach taken by the Victorian Government to 'long-term assessment of water

[31] See further: MDBA *Initial SDL Assessments: Summary of Assessment Approach* (2026), 3: 'The SDLs for the 109 SDL Resource Units were determined to reflect an ESLT in the Basin Plan in 2012 based on the best available science and knowledge at the time.'
[32] See further: *Discussion Paper* at 19: 'They [SDLs] balance water used by towns, communities, farmers and industries with the need to rivers and the environment healthy.'

resources', which recognises a 'step change' in climate impacts on water resources since at least the mid-1970s.[33]

ii. The relatively simplified approach to addressing climate considerations in the 'assessment', that approach being found primarily in the contemporary iteration of the Sustainable River Audit[34] (**SRA**) completed in anticipation of the Review. While recommencing the SRA process is welcome, one of the identified shortcomings of the exercise is its use of 'simplified linear [causal] modelling,'[35] derived from the comparable SRA project of the 2000s, failing to account for a substantial body of scientific knowledge acquired in the meantime.[36] That the 'Line of enquiry 3' represents 'best available scientific knowledge' appears highly questionable.

On the basis of the above points, we submit that there are real questions as to whether the scientific basis of the SDL 'assessment' is sound as it relates to climate change, and, having regard both to these considerations and the failure to account for climate change considerations in the setting of the present SDL,[37] the Authority's refusal to take climate considerations into account in amending the SDL(s)[38] seems untenable.

e. It is inevitable that the evidentiary base informing 'assessment' of the SDL in such a Review is technically complex. That may pose challenges for representation in a manner capable of enabling public participation. Regardless, the technical and evidentiary base must be plainly *scientific*, proceed on the basis of 'best available scientific knowledge', and capable of withstanding scrutiny as such. In our submission, it is not possible to conclude that the 'initial SDL assessments' informing the Review to date represent 'best available science'. Indeed, it is highly questionable that the underpinning technical materials are *scientific as such*. The procedure adopted appears to contain two concerning limitations:

i. First, techniques used do not appear to be reproduceable, models and datasets not disclosed or available for testing, the actual evidentiary and

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[33] See further: Department of Environment, Land, Water and Planning (Vic) ('DEWLP') *Long-term Water Resource Assessment for Southern Victoria: Overview Report* (2020); DELWP et al *Victoria's Water in a Changing Climate* (2020).

[34] MDBA *2025 Sustainable Rivers Audit* (2025).

[35] John et al 'Research and institutional priorities for assessing hydroclimate risks to Murray Darling Basin Plan outcome' (2026) *Australasian Journal of Water Resources*, 4 doi:10.1080/13241583.2026.2639540 ('John et al 2026).

[36] John et al 2026, 5:

> The SY2 modelling relied on pattern-scaling of GCM outputs and empirical scaling of historical data (Chiew et al. 2025). While suited for identifying broad trends such as the projected median decline in seasonal rainfall and runoff, this approach obscures several hydroclimatic processes and risk drivers important to Basin Plan outcomes. We identify 12 drivers requiring greater attention. Chiew et al. (2025) is transparent about the limitations of the SY2 approach and discusses many of these drivers. However, despite much improvement in the knowledge of these drivers and their relationships with runoff projections since CSIRO (2008), they remain unaccounted for in Basin Plan modelling.

[37] See further: Walker 2019, ch 6.

[38] *Discussion Paper*, 33.

information base of 'assessment' (such as would be contained in modelling reports) is not available. Conventional scientific techniques which would bear these hallmarks[39] are substituted with a form of in-house 'elicitation.' The 'new approach'[40] taken cannot be said to equate to science or, perhaps alternatively, to sound science.

ii. Second, there is a substantial base of recent peer-reviewed scientific literature with which the Authority appears not to have engaged with. We return below to the issue of the science base and scientific literature properly or reasonably informing the Review. Needless to say, as a matter of construction, for the knowledge base to be considered scientific, it is essential that the edifice of reasoning is informed by all readily available and authoritative sources including directly relevant literature from peer-reviewed sources. As far as we can tell, this step has not occurred.

Both issues – of evident scientific procedure and full engagement with the pool of authoritative sources – go to the quality ('best'), public nature ('available') and inherent technical character ('science') of the knowledge base relied on in the Review process.

We submit that the approach taken to date by the Authority cannot properly be understood as consistent with the statutory mandate to act in accordance with best available science. We submit that it will be necessary to remedy serious shortcomings in this respect in the further course of the Review.

f. The legal standard of 'environmentally sustainable' levels of take invokes a requirement to engage with the question of a precautionary approach to the setting

[39] By which we mean procedures and conduct adopted in accordance with ordinary, accepted scientific practice, in particular that associated with knowledge that is public, predictive (such as using the device of hypothesis) and falsifiable (broadly speaking the positivist model of scientific rationality associated, for example, with Popper). In the present context, an example of this approach was that used in determining environmental water requirements for 'key environmental assets' informing the *Guide to the Proposed Basin Plan* (2010) at Figure 4.2 at p 95. The Authority's principles 3 and 5 would appear to support this type of approach: see MDBA *Science and Knowledge Approach* (2025), 1, but it is not clear how or where these principles translate into a scientific procedure that is identifiable as such. The above points are not to say there is not additional evidence and 'lines of evidence' informing the Review and the Discussion Paper. That is plainly the case. The issue is, rather, that this evidence base and the means and techniques of its treatment are defensibly scientific. We note, in this respect, the observations of the Commissioner in Walker 2019, at 710, which remain apt:

> All the functions to be performed by the MDBA under the Water Act are ones that properly lend themselves to public scrutiny. For example, the word 'available' in the context of science immediately suggests 'available to the scientific community' and hence also the public. It clearly implies that the science is either already available to the public, or that it is to be made available by the MDBA. Further, 'scientific knowledge' relates to the pursuit, research into or implementation of science. As many witnesses who gave evidence at the Commission hearings stated, the process of 'science' involves something — a theory, a model, a conclusion, a finding, a discovery — that is capable of being tested, and proved wrong. This self-evidently implies the sharing of all information in order for that scientific knowledge to be properly checked. Knowledge that cannot be scrutinized because of a lack of information is not science. Equally, scientific knowledge not publicly disclosed obviously cannot be checked.

[40] MDBA *The SDL Assessment: Technical Methods – Overview* (2026), 5-6.

of the SDL and determination of an ESLT.[41] The precautionary principle is well-known and its contents and preconditions of engagement well-established, the triggering conditions being risks of serious or irreversible environmental harm combined with substantial uncertainty as to that harm occurring. It is not evident that the Authority has addressed the precautionary principle in the Review, even though evidence appears in the Discussion Paper materials of serious risks to environmental values (such as where 'SDLs do not support environmental outcomes' in certain major waterways) and substantial uncertainty. Whether taking into account the Authority's analyses or a wider base of scientific and technical knowledge, such as we consider below, we submit that it is highly likely the precautionary principle must be engaged in the task of setting the SDLs/ESLT and a responsive approach is required. The Authority must expressly address application of the precautionary principle to the SDL/ESLT issue.

63. Finally, insofar as the SDL/ESLT mandates a volumetric control (cap) under which water resources management is to function, those amounts set out in *The Guide to the Proposed Basin Plan* remain, as far as we are aware, the best available quantified parameters of sustainable take. In our submission, the SDL range set out in The Guide continues to provide the appropriate and valid recovery amounts (combined with confidence values).

The technical base of the Review

64. We understand the technical base of the Review to be contained in the Discussion Paper, the series of technical papers underpinning the Discussion Paper, the Basin Plan Outlook of 2025,[42] and the Sustainable Rivers Audit of 2025.[43]

65. The approach ultimately taken by the Authority to the setting of SDLs in the 2012 Basin Plan has been criticized elsewhere. For present purposes, the issue of technical analysis and modelling underpinning the Review appears to add further confusion and obfuscation into the technical base of the core device of the SDL/ESLT. We refer to the following concerns and issues:

    a. The theory and analytical methods on which the foundational concept of 'non-compromised' Basin water resources is based (the condition of Basin water resources according with the statutory meaning of ESLT) are highly opaque, if not entirely obscure, potentially have varying measures depending on the form of ecological value (for example, native vegetation, fish or bird populations) and have some form of relationship to 'without development' scenarios, although precisely what those relationships are and/or justification for them appear difficult to discern.

    b. As we allude to elsewhere, the present technical base and modelling of the SDLs/ESLT appear to pay little or no regard to a wide range of scientific and technical

[41] See further: *Water Act 2007* (Cth), subs 21(4)(a), 4(2).
[42] MDBA *2025 Murray–Darling Basin Outlook* (Report, 27 November 2025).
[43] MDBA *2025 Sustainable Rivers Audit – reports and data* (Web Page, 24 July 2025).

literature published in recent years. We refer to key findings and opinions contained in such literature below. For example, NSW methodology informing long term water plans and environmental watering requirements[44] appears to contain no references beyond 2020. Furthermore, most of the peer-reviewed literature that was used only dates up to the mid-2010s, despite there being a large and continuing volume of directly relevant peer-reviewed research throughout the late 2010s and in the 2020s.

c. Modelling reports presumably produced for flow-ecology models informing the 'initial SDL assessments' are not publicly available and, as far as we can discern, have not been independently scrutinized or tested, or at least not in a manner that is publicly verified or verifiable. 'Moderation' of modelled results is not equivalent or comparable to independent peer review or a procedure that can reasonably be termed validation, verification or testing of the models used, or data and findings generated in the scientific sense. All model reports should be made publicly available and all relevant datasets made available for independent peer review.

66. Notwithstanding the technical and methodological flaws presently underpinning the Review, which we contend are serious and need to be addressed, the technical base of the Review itself reveals real concerns that SDLs as currently operating across many Basin water resources do not reflect an ESLT. In respect of the Barwon-Darling system and the lower Murray system in SA (including the Coorong) even the Authority concedes the SDLs do not reflect an ESLT. In essence, the evidence is glaring that flow regimes in western NSW and in the lower Murray are not environmentally sustainable and, absent reversal of current trajectories, the spectre of ecological collapse in substantial parts of these systems looms large.

67. The technical base informing the Review must include 'best available scientific knowledge' and address the full ambit of peer-reviewed literature and its findings and opinions. The body of relevant literature and findings reveals (among other things) the following:

a. Observed hydrological outcomes are worse than targeted or intended outcomes, often significantly so.[45]

b. Requirements and targets for Basin water resources are not being met, other than perhaps for economic outcomes and in general not for environmental or cultural outcomes.[46]

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[44] Department of Planning and Environment (NSW) NSW 'NSW – Part C: Environmental Water Requirements' in *Long Term Water Plans: Background Information, A Description of the Development of the 9 LTWPs* (Report, 20 February 2023).

[45] Colloff et al *Assessment of River Flows in the Murray Darling Basin: Observed Versus Expected Flows under the Basin Plan 2012-2019* (Wentworth Group of Concerned Scientists, 2020).

[46] Chen et al 'A trickle not a flood: environmental watering in the Murray Darling Basin' (2021) 72 *Marine and Freshwater Research* 601 ('Chen et al 2021'); Sheldon et al 'Are environmental watering requirements being met in the Murray Darling Basin, Australia?' (2024) 75 *Marine and Freshwater Research*, doi:10.1071/MF23172 ('Sheldon et al 2024').

c. There is evidence that key ecological assets are not being managed in a manner that will avoid them being compromised.[47]

d. Water reallocated to the environment (principally in the form of held flows) under the Basin Plan has, in certain respects, arrested environmental decline of Basin water resources, instead directed generally to main river channels. Environmental watering has not avoided 'significant environmental decline' in iconic wetlands.[48]

e. Environmental offset measures integral to the design and operation of SDL adjustment lack scientific credibility and will not achieve what they purport to achieve (specifically, 'ecological equivalence' for less water recovered).[49] 'Hard' environmental engineering solutions to the issue of acquisition, delivery or management of water for the environment is in general inefficient, ineffective, likely counter-productive and better displaced or declined in favour of measures enabling or approximating natural flow regimes.[50]

f. Long-term stream flow is declining (in the northern MDB at least) and, where take occurs in river valleys through irrigation, it comprises around half of that decline. Economic techniques are available to quantify socio-economic effects of reallocation of water to the environment (including the various scenarios), including to mitigate streamflow decline and hence contribute to an ESLT. Cost of reallocation in the northern MDB ranges from 9-29% of irrigation agricultural revenues.[51]

g. Climate change impacts (decline) on Basin water resources are already observable.[52]

h. Recovery of water for the environment has been 'stepped down' by design over the life of the Basin Plan,[53] further and (on the available evidence) unequivocally departing from an SDL reflecting an ESLT.

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[47] Ryan et al 'Flow to nowhere: the disconnect between environmental watering and the conservation of threatened species in the Murray-Darling Basin, Australia' (2021) 72 *Marine and Freshwater Research* 1408; Chen et al 2021, 9.

[48] Brookes et al 'How well is the Basin Plan meeting its objectives? From the perspective of the Coorong, a sentinel of change in the Murray-Darling Basin' (2023) 27 *Australasian Journal of Water Resources* 2, 223; Sheldon et al 2024.

[49] Lyons et al 'Towards a scientific evaluation of environmental water offsetting in the Murray-Darling Basin, Australia' (2023) 74 *Marine and Freshwater Research* 3, 264; Walker 2019.

[50] Ziang et al 'Enhancing river flows versus environmental engineering as contrasting approaches to wetland conservation in the Murray-Darling Basin (2025) 76 *Marine and Freshwater Research* doi:10.1071/MF25013.

[51] Chu et al 'Effects of long-term meteorological trends on streamflow in the Northern Murray-Darlin Basin, Australian, 1981-2020' (2025) 58 *Journal of Hydrology: Regional Studies* 102232 ('Chu et al 2025').

[52] Whetton and Chiew 'Climate change in the Murray Darling Basin' in Hart et al *Murray-Darling Basin, Australia: Its Future Management* (Elsevier, 2021); Wasko et al 'Understanding the implications of climate change for Australia's surface water resources: challenges and future directions' (2024) 645 *Journal of Hydrology* 132221.

[53] Colloff and Pittock 'Mind the gap! Reconciling environmental water requirements with scarcity in the Murray-Darling Basin, Australia' (2022) 14 *Water* https://doi.org/10.3390/w14020208 ('Colloff and Pittock 2022').

i. Where recovery is reflected in 'held' environmental water, a significant proportion of those holdings are not necessarily reliable or translating into environmental outcomes.[54]

j. Capacity for recovery of natural ecosystem properties and processes following drought appears to be declining, indicative of limited if not faltering resilience in Basin water ecosystems.[55]

k. Take in the northern MDB is and remains unsustainable, associated in particular with floodplain harvesting (take which is largely unregulated and continues to grow over the life of the Basin Plan).[56] These conditions are observable in declining stream flows and substantial increase in zero flow dynamics. Recuperated or restored ecohydrological conditions (likely representative of an ESLT, including ecohydrological function avoiding compromise to the water resource) must include near-perennial low-flow combined with annual flow pulses.[57]

l. Aboriginal communities control virtually no formal water rights and they have been almost entirely excluded from any benefits, as determined by themselves, from the water market (commodification of water rights).[58] Watering programs delivered using water recovered for the environment and held by the Commonwealth achieved very little in the first decade of the Basin Plan for Aboriginal communities in restoration of flows to their Country.[59]

m. Techniques of *synthesis* of scientific knowledge and Aboriginal cultural knowledge have now been developed and applied to Basin water resources, such as through cultural flows programs[60] and Aboriginal waterways assessments.[61] Despite activities informing this research being substantially funded by the Authority, there is little or

[54] Moore et al '"Sub prime" water, low security entitlements and policy challenges in over-allocated river basins: the case of the Murray-Darling Basin' (2020) 66 *Environmental Management* 202 ('Moore et al 2020').
[55] Peterson et al 'Watersheds may not recover from drought' (2021) 372 *Science* 6543, 745; Fowler et al 'Hydrological shifts threaten water resources' (2022) 58 *Water Resources Research* 8 e2021WR031210.
[56] Brown et al 'An unsustainable level of take: on-farm storages and floodplain water harvesting in the northern Murray-Darling Basin, Australia' (2022) 26 *Australasian Journal of Water Resources* 1, 43 ('Brown et al 2022').
[57] Mallen-Cooper and Zampatti 'Restoring the ecological integrity of a dryland river: why low flows in the Barwon-Darling must *flow*' (2020) 21 *Ecological Management and Restoration* 3, 218 ('Mallen-Cooper and Zampatti 2020').
[58] Hartwig et al 'Trends in Aboriginal water ownership in New South Wales, Australia: the continuities between colonial and neoliberal forms of dispossession' (2020) 99 *Land Use Policy* 104869; Hartwig et al 'Water trading by Aboriginal organisations in NSW, Australia' (2023) 100 *Journal of Rural Studies* 102997.
[59] Costanza van der Belt 'Watering of wetlands on Indigenous Country in the Murray-Darling Basin, Australia' (2022) 73 *Marine and Freshwater Research* 12, 1413.
[60] MacKenzie *Cultural Flows: Aboriginal Water Interests for Establishing Cultural Flows: Preliminary Findings* (MLDRIN, NBAN and NAILSMA, 2016); Mackenzie et al *Cultural Flows: Field Studies Final Report* (MLDRIN, NBAN, NAILSMA) (Report, 2017) ('Mackenzie et al 2017').
[61] Mooney and Cullen 'Implementing the Aboriginal Waterway Assessments Tool: Collaborations to Engage and Empower First Nations in Waterway Management' (2019) 26 *Australasian Journal of Environmental Managemen*t 197.

no evidence identified within the Review of such synthesized approaches to the scientific knowledge base.

n. Relatively high degrees of regulatory capture, rent seeking by irrigated agricultural interests, distortions in water accounting and failures in governmental institutions have and continue to be evident in administration of the Basin Plan.[62] Such findings form part of the base of available socio-economic knowledge.

Actual Basin environmental conditions are still at serious risk of loss and degradation

68. As the technical base referred to above establishes (including the Discussion Paper bundle and the additional materials cited), actual environmental conditions of water ecosystems across the MDB generally exhibit a continuing trajectory of decline.[63]

69. Stabilization of certain water ecosystem components (such as in-stream or in-channel condition where flow management permits watering targets to be met from held water) and recovery of ecosystems where naturalised conditions are approximated or reinstated (such as in the Lowbidgee via the Naimie Cara project) occur alongside much more extensive degradation of biological or ecological components (for example, floodplain wetlands and forests, native fish and bird populations, lateral and longitudinal connectivity). There is risk of ecological collapse in certain ecosystems (such as in the Darling/Baaka, higher floodplain Black Box woodlands, and for native fish populations). The fate and symptomatic conditions of the 'terminus' ecosystem of the Lower Murray, Lakes and Coorong, where threats to ecohydrology persist or are increasing, are particularly problematic.[64]

70. The current environmental state of the MDB cannot be explained solely by ecological delays or time lags in recovery. As we have set out elsewhere in these submissions, a principal concern is that the statutory terms and parameters of environmental protection and recovery in the MDB are not in place. The scheme of the *Water Act* is generally apt to the task of such protection and recovery. However, a central issue of concern is regulatory design, which is to say design of the Basin Plan and ensuring it is consistent with standards set by the *Water Act* and, by extension, the international agreements on which the *Water Act* rests.

71. In short, the water ecosystems of the MDB remain, for the most part, imperilled by poor, limited, inadequate and entirely deficient flow-ecology regimes, an outcome that cannot be

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[62] Colloff and Pittock 2022; Colloff et al 'Scientific integrity, public policy and water governance in the Murray Darling Basin, Australia' (2021) *Australasian Journal of Water Resources* https://doi.org/10.1080/13241583.2021.1917097; Grafton and Williams 'Rent-seeking behaviour and regulatory capture in the Murray-Darling Basin, Australia' (2020) 36 *International Journal of Water Resources Development* 2, 484; Walker 2019.

[63] Sheldon et 2024.

[64] See further: DCCEEW *Approved Conservation Advice for the River Murray Downstream of the Darling River and Associated Aquatic and Floodplain Systems* (Report, 2026), 74-79 (Table 19).

disentangled fundamentally from the failure to recover sufficient water for the environment (or in other words sufficiently re-establish naturalised flow regimes) and from the failure to set lawful limits (SDLs) on water extraction and related river regulation.

72. Additionally, achievement of 'recovery of water for the environment' is commonly understood to rely on shifting water out of consumptive use to environmental 'use'. The legal concept of 'take' encourages this policy to be framed predominantly in terms of 'held' environmental water. As we submit below, use of 'planned' environmental water and greater rule-based approaches to arresting continuing trajectories of decline of Basin water resources is a necessary and essential complement to use of 'held' environmental water in achieving actual environmental outcomes, as well as determining SDLs/ESLT.

73. Further, the use of 'held' environmental water as the principal, or even sole, source of achievement of Basin Plan outcomes and objectives risks failure, or exacerbation of poor performance, due to the status of rights and interests attached to water holdings. Compromise to MDB environmental values may be reflected in environmental water holder reliance on 'low' or 'general' security holdings.[65] Reliance on economic mechanisms (commodification of water resources) to achieve environmental outcomes in the MDB would appear to be accompanied by 'pseudo-financialized' risks, namely that the underpinning values of the interests held (water entitlements) are overstated and environmental water holders are sitting on 'sub-prime water.'[66]

74. The above conditions should be considered and addressed in the Review.

The SDL Adjustment Mechanism: to be abandoned in its present form and programs reorganised

75. We concur with the Commissioner's view from the SA Royal Commission that the SDLAM is useful and relevant in principle but its actual design and implementation is deeply flawed. For the reasons set out below, we submit that the SDLAM should be dismantled and discontinued in its present form, with certain programs anticipated under the SDLAM (such as constraints relaxation) being separately progressed and advanced under an amended Basin Plan. It appears to be accepted in materials informing the Review that the SDLAM will not be achieved or implemented in accordance with its current program.[67]

76. In general, the SDLAM is intended as a means of achieving 'equivalent ecological outcomes' for Basin water resources through a set of projects or programs (notified by Basin States) that require less recovery of water for the environment, or in other words 'equivalent' outcomes are to be achieved with less water. SDLs are not to be lowered to a level otherwise required (absent the SDLAM). The SDLAM is in essence a very elaborate and technical offsetting scheme. It relies, broadly, on greater, rather than less, physical and operational

[65] See further: DCCEEW 'Water holdings' (as at 31 March 2026).
[66] Moore et al 2020.
[67] Dovers et al *Matter 1: The Effectiveness and Transparency of Basin Water Resource Management Final Report* (Aither, 2024).

engineering of the MDB environment. Like many, if not most offsetting schemes, it will not and, in our view, cannot achieve what it purports to achieve – namely, environmental outcomes 'equivalent' to what would otherwise be achieved by a legally compliant Basin Plan and correctly set SDLs. The SDLAM is integral to what has been termed the 'step down'[68] in actions to respond to historic overextraction of water from the MDB.

77. As the Commissioner pointed out, it remains the case that an 'adjusted' SDL must still reflect an ESLT. The initial fatal flaw of the SDLAM is that its starting point was not a legally correct SDL. Subsequent flaws may be found in the flimsy and unscientific approach to design and implementation of key programs of the SDLAM, such as 'supply measures'. As is now evident – and accepted in the materials on which the Review is proceeding – it is highly unlikely that key SDLAM programs such as supply measures, will be delivered, functional and (as required) achieve 'equivalent ecological outcomes' by the date of 'reconciliation' of the SDLAM, or indeed at all.

78. Were the highly experimental and risky approach taken by the SDLAM appropriate, in our view it would have been necessary to apply the precautionary principle to the SDLAM as a whole as a rule of design and implementation, given clear risks of serious or irreversible harm to MDB water ecosystems and very high levels of uncertainty. Such a calculus has never been undertaken nor, in the event of actual design and operation, appropriately responsive measures ever been developed.

79. In our submission, the SDLAM in its existing form should be abandoned, with attendant repeal or reform of Basin Plan provisions and withdrawal of notified measures. We draw particular attention to the 'supply' measures contained in the Victorian Murray Floodplain Restoration Project, which amount to floodplain re-engineering projects with the likely effects of expanding physical reconstruction of floodplains, achieving only partial inundation of floodplain wetlands (abandoning other ecosystem components), and implementing significant land clearing on floodplains. These projects amount to forms of high-risk, highly engineered 'triage' of certain wetlands at the expense of more naturalised flow (flooding) regimes capable of inundating and therefore sustaining or recovering much more extensive areas of floodplain ecosystem. While we accept there are circumstances in which forms of floodplain engineering may be warranted and best practice, in order to achieve ecosystem recovery outcomes, such actions should be ancillary to water recovery and improved overbank flow regimes. We acknowledge that limitations on more naturalistic flow regimes in the southern MDB include the need to confront and overcome what are usually termed 'constraints' to floodplain inundation. So-called 'constraints relaxation' is a component of the SDLAM that requires expeditious design and implementation. Without resolution of this issue, other programs notionally within the SDLAM, such as 'enhanced environmental water delivery' will not delivered.[69] Constraints relaxation and 'enhanced' environmental water delivery should be separately accommodated within the Basin Plan.

[68] Colloff and Pittock 2022.
[69] See further: Walker 2019, 349-350.

Constraints relaxation and floodplains (lateral connectivity)

80. The Discussion Paper and Review appear to accept that a major issue in protection and recovery of MDB water ecosystems continues to be lateral connectivity of rivers/streams and floodplains. That is particularly the case for the southern MDB. In short, rivers and streams of the southern MDB in particular, as a consequence of river regulation and other factors, cannot function in a manner approximating a natural ecohydrological regime, to a degree imperilling wetlands, forests and woodlands associated with those floodplains.

81. The Discussion Paper appears to take the approach that 'constraints' on ecological function jeopardize the nexus between SDLs set for certain water resource areas (in effect, key rivers of the southern MDB) and the ESLT for those areas. This approach seems to assume 'constraints' are modelled as 'take' and, consequently, removal of 'constraints' would amount to reduction in 'take', with a corresponding volumetric calculation. This approach is distinct from understanding the removal of 'constraints' as a merely strategic response to environmental water delivery once 'take' is calculated and assessed. It is also distinct from shortcomings identified as matters of legal construction above.[70] To be clear, in our view, for the most part 'constraints' are not a question of 'take' and therefore are not a matter of the ESLT and setting of SDLs, but rather an issue of environmental watering strategy, as 'constraints' generally do not amount to diversion, storage or control of water (although in some cases may).

82. Regardless of association with SDL questions, removal or 'relaxation' of 'constraints' plainly remains a matter of importance and imperative to be addressed through the Basin Plan. Confronting the problem of 'constraints' within the regulated river systems of the southern MDB is essential to achieving an ecologically healthy system. For certain ecosystem components, such as Red Gum and Black Box woodlands, a consequence of failure to address the issue may include long-run ecosystem collapse at local or wider scale.

83. 'Constraints' have been identified with both rights to inundate floodplain land and with impacts on physical infrastructure. We make submissions and comment mainly on the former. We assume that a programmatic response to reorganising physical public infrastructure could be undertaken as a matter of governmental or other work programs over an appropriate and orderly course of time. Similarly, we assume that removing legal forms of 'constraint' on public land could be undertaken through amendments to State legislation and subordinate instruments or policy (such as planning instruments).

84. Removing 'constraints' on private land raises certain matters for consideration, such as legal rights attached to land (such as rights to burden land), governance of environmental water management where inundation of floodplains is planned or intended, and liability protections for environmental water managers.

[70] In general, on these points, see further: Walker 2019, 354-361.

85. A claimed policy and legal impediment to progressing 'constraints relaxation' is the need for water-holders and/or river operators to secure legal rights in respect of private landholdings over floodplains to permit inundation regimes in accordance with environmental water planning. Such regimes are fundamentally public interest schemes in pursuit of environmental objectives. They are analogous to schemes for design and implementation of public infrastructure, being a form of 'environmental infrastructure.'[71] Pursuit of public goods in this way is a routine part of government business.

86. Where intentional inundation is a 'burden' on land, appropriate legal interests in floodplain land may be acquired across a class(es) of landholdings, so that sufficient rights and interests may vest for public purposes of floodplain management. If not reasonably achievable by agreement, acquisition of interests may occur by compulsory means. Easements in gross, for example, may be established across river valleys. Given the large numbers of landholdings affected there may be no viable or orderly way in which to vest rights necessary to achieve environmental purposes other than by compulsory acquisition. Notwithstanding the reticence of Basin States to plan for compulsory acquisition, it is a contingency with which the Commonwealth should actively engage and for which it should plan. Much underlying technical work has occurred,[72] which includes working through acquisition of easement rights and responses to 'residual risks' on environmental water holders.

87. Retirement and restoration of private land within riparian zones should be factored into programs for lateral connectivity, this being land not within the floodplain but within the river channel or on the riverbank.[73]

88. An additional measure that should be taken in order to enable floodplain inundation (lateral connectivity of Basin water resources) is to address directly one of the key sources of legal risk attaching to environmental water management where that management touches on private landholdings: that is, the issue of civil liability for loss or damage accruing to environmental water holders engaging in watering actions. This source of risk may be relevant to a range of environmental watering activities, where those actions are directed to inundation for environmental and restorative purposes. For present purposes, we focus on the matter of overbank flows and floodplain inundation. This issue appears to form the basis of recent controversy over halts to environmental flows in the Gwydir wetlands near Moree.[74]

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[71] Walker 2019, 368-369; see further: Environmental Justice Australia *A New Deal for the Rivers and Waterways of Melbourne's West* (Report, 11 December 2018).
[72] See further: Department of Energy, Environment and Climate Action (Vic) *The Feasibility of Relaxing Constraints in Northern Victoria* (Report, June 2024).
[73] Capon et al 'Repairing Australia's inland river and groundwater systems: nine priority actions, benefits and the finance gap' (2025) 76 *Marine and Freshwater Research* doi:10.1071/MF24160.
[74] See further: Cox ''Incomprehensible': birds flee and hundreds of turtles left to die after government cuts water to NSW wetlands' , *The Guardian*, 18 April 2026 ('Cox *The Guardian* 2026').

89. Civil liability provisions may be engaged, for example, where a person causes unreasonable flow leading to damage, injury or economic loss,[75] or a water authority intentionally or negligently acts in a way causing such flow,[76] or by a common law tort (such as negligence). Certain jurisdictions, such as NSW, have moved to limit such liabilities where they may be applicable to environmental water managers. In NSW, such immunities are an extension of Crown immunity where environmental water releases are undertaken in good faith.[77]

90. Whether in the NSW form or otherwise, good faith immunity from civil liability should be extended generally to environmental water managers or river operators or other persons[78] engaged in environmental flow management.

91. Good faith protections for environmental water managers may be the subject of or required as WRP rules as discussed elsewhere in these submissions.

Longitudinal connectivity, the northern Basin, priority rules and infrastructure decommissioning

92. Conditions of the rivers and wetlands in the northern MDB are particularly dire. It is notorious that the distinctive ecohydrological state of the northern MDB (a large semi-arid zone fed by distant watersheds and large pulse-based events) is beset by unsustainable extractions,[79] which have not declined, evident in both diversions and from large-scale interception activities (floodplain harvesting), and governed under conditions of regulatory capture. Continued overextraction is exacerbated by patterns of non-compliance.

93. The Discussion Paper appears to accept that flow regimes in the northern MDB, including the Barwon-Darling system, are not sustainable, a condition evident in major disruptions in longitudinal connectivity – conditions that manifest most spectacularly in recurring cease to flow events and fish kills. Notwithstanding the naturally high variability in flow regimes in the northern MDB, it is not the case that contemporary flow patterns reflect natural flow-ecological conditions. The current state of northern MDB rivers (including the Barwon-Darling) and identified trajectories of decline are substantially caused by extraction regimes, especially for irrigated agriculture.

94. Longitudinal connectivity of the northern rivers is the norm under natural – and, we would submit, sustainable – conditions. That connectivity is associated with both large-scale flooding events and continuous low flows outside of those periods. That ecohydrology has been described as 'persistent baseflows supporting lotic habitats; and near annual,

[75] *Water Act 1989* (Vic), s 16.
[76] *Water Act 1989* (Vic), s 157.
[77] *Water Management Act 2000* (NSW), s 398.
[78] For example, where private entities engage in environmental watering actions.
[79] Sheldon et al 2024; Chu et al 2025; Brown et al 2022; Vertessy et al *Investigation of the Causes of Mass Fish Kills in the Menindee Region NSW over the Summer of 2018-2019* (Australian Academy of Science, 2019) ('Vertessy et al 2019'); NSW Chief Scientist and Engineer *Independent Review of the 2023 Fish Deaths in the Darling-Baaka River at Menindee* (2023).

landscape-scale flow pulses'[80] (for the Barwon-Darling). For these rivers, the issue is flows *as such* (that is, avoiding cease to flow events) as well as 'patterns of flow'.[81]

95. In our submission the issue of continued overextraction in the northern MDB and its consequences, including on the Barwon-Darling system, has been well-canvassed.[82] Key water resource areas within the northern MDB are not meeting an ESLT and SDLs set in accordance with the *Water Act*. The degree of scrutiny, controversy over and scientific inquiry into water resources management in the northern MDB has led to known and appropriate responses.[83] Those responses may bear political and technical challenges but they are not insuperable, and they are matters that must, in our view, be addressed by the Review and, likely, amendments to the Basin Plan.

96. General parameters for ESLTs in the northern MBD are known and identifiable in 'environmental watering requirements.' General characterization of northern rivers, especially the Barwon-Darling system, is known and reflected in maintenance of perennial flows and periodic flood events. Controls reasonably capable of establishing ESLTs in the northern MDB focus on:

    a. Rules-based regulatory measures, to be contained in water planning instruments, prioritizing flows and flow regimes reasonably capable of meeting environmental watering requirements (in other words, 'planned environmental water' measures);[84]

    b. Managing, including decommissioning and/or structurally modifying, physical and engineered structures associated with 'take', such as dams, weirs, floodplain storages, levees, and other diversion structures;[85]and

    c. Reform and overhaul of water accounting schemes and compliance measures and institutions, in order to achieve considerably greater transparency in water resources management and to reduce the degree of uncertainty and/or opacity in water management.

[80] Mallen-Cooper and Zampatti 2020, 226.
[81] *Discussion Paper*, 28.
[82] See further: Vertessy et al 2019; NSW Chief Scientist and Engineer *Independent Review of the 2023 Fish Deaths in the Darling-Baaka River at Menindee* (2023); Walker 2019; NSW Legislative Council Select Committee on Floodplain Harvesting *Floodplain Harvesting* (2021); Sheldon et al 'Are environmental watering requirements being met in the Murray Darling Basin, Australia?' *Marine & Freshwater Research* (2024).
[83] Mallen-Cooper and Zampatti 2020; NSW Legislative Council Select Committee on Floodplain Harvesting *Floodplain Harvesting*; Wentworth Group of Concerned Scientists and Environment Defenders Office *Inquiry into Floodplain Harvesting: Submission 61* (2021) ('*Submission 61* 2021').
[84] See further: Wentworth Group of Concerned Scientists *Wentworth Group submission to Barwon Darling Water Sharing Plan* (2025); Wentworth Group of Concerned Scientists *NSW Government's Floodplain Harvesting Targets Prioritize Irrigation Extraction Over Needs for Communities and River Health* (2022); Wentworth Group of Concerned Scientists *Wentworth Group's Recommended Floodplain Harvesting Flow Targets in NSW* (2022).
[85] Mallen-Cooper and Zampatti 2020; *Submission 61* 2021.

97. In our submission, priority rules for environmental outcomes in water planning, decommissioning and/or re-engineering water infrastructure (both public and private, in-stream and floodplain), and substantial improvements in water administration are each fundamental and necessary to the design and implementation of the Basin Plan and the *Water Act*.

98. In our submission, the rule-based approach to 'sustainability' contained within the precautionary principle again provides an instructive and required mechanism that should be adopted as a device of *regulatory design* for water resource planning in the northern MDB (as well as elsewhere in the MDB). The enlivening triggers of risk of serious or irreversible environmental harm and substantial uncertainty plainly operate in relation to water planning for the northern MDB. The subsequent and pressing issue then is one of lawful and appropriate (which is to say, proportionate) response. In this respect we make the following observations:

    a. A lawful response to the enlivening risks and uncertainties is one including measures reasonably capable of *preventing* environmental degradation;[86]

    b. Precaution should be read in the context of the *Water Act* as a whole and include reference to the concept of ESLT and to best available scientific knowledge. A lawful response includes the imperative to halt further environmental degradation and establish recovery or restoration of water ecosystems; and

    c. Regulatory design measures should be addressed to each water resource plan in the northern MDB as well as across the northern MDB as a whole (which is to say in respect of the inter-operation of WRPs across the northern MDB).

99. Consideration needs to be given to the relationship between environmental priority flow rules, decommissioning of water infrastructure, and assessment and calculation of SDLs. Water infrastructure decommissioning (whether associated with floodplain harvesting or in-stream or otherwise) will generally contribute to reduction in 'take' and thereby contribute to achievement of an ESLT. That assumption may be based on circumstances in which water infrastructure (for example, weirs, channels, storages, or levees) stops, impedes, or diverts flow or stores water for the purposes of 'take'.[87] By these means, water infrastructure decommissioning and/or modification[88] are likely to contribute to SDLs. That contribution would depend on infrastructure decommissioning or modification actions being

[86] See *Water Act 2007* (Cth), ss 4(2)(a).
[87] See *Water Act 2007* (Cth), s 4 ('take'), including para (b).
[88] Whether modifications to water infrastructure that permit *lower* take, as distinct from decommissioning or dismantling of infrastructure, equates to an avoidance of 'take' under the section 4 definition is perhaps debateable. Decommissioning for present purposes assumes removal of physical structures effecting diversion, impediment, storage etc to flow of water, where otherwise water would flow under natural hydrological and hydraulic conditions. Modification of infrastructure assumes structures are maintained but their impact on flows diminished. Insofar as modifications to infrastructure include design to permit ordinary flow (see further: *Submission 61* 2021 it may be that such measures do not 'reduce the flow of water in or onto the water resource' and by extension fall outside of the scope of 'take.'

appropriately (volumetrically) modelled and calculated for the purposes of ESLT/SDL determinations.

100. We submit that water infrastructure decommissioning programs should be accounted for in the Review and the subject of subsequent Basin Plan amendments. SDL assessment and modelling should account for decommissioning programs where such decommissioning forms part of an ESLT (in accordance with the statutory definition of avoidance of compromise of identified environmental values).

101. Further, environmental priority rules, infrastructure decommissioning measures and water administration reforms noted above should be considered in respect of the southern MDB as relevant and appropriate as well as for the northern MDB.

102. Environmental priority rules and infrastructure decommissioning measures should be included as required content in water resource plans where relevant and applicable to the circumstances of the water resource planning area.

Design and operation of water resource plans

103. We note the proposals in the Discussion Paper to 'streamline' water resource plans. While there is no doubt scope for efficiencies and greater effectiveness in design and implementation of WRPs, the intention of Discussion Paper proposals appears to be reduction in content and dilution of regulatory effect of WRPs. In our submission, concerns about the time and effort required to prepare and accredit (and eventually review and/or remake) WRPs frequently arose *due to the conduct and delay of Basin States* (in particular NSW). Diluting WRP requirements rewards that conduct.

104. In our submission, substantial dilution of the regulatory scope and effect of WRPs should be resisted. The reasons for this position are as follows:

    a. WRPs form the localised (catchment) expression of cascading legal arrangements, which proceed from relevant international agreements to the *Water Act* and the Basin Plan to WRPs.

    b. As part of the architecture referred to above, WRPs represent necessarily *prescriptive* (regulatory) machinery for management of water resources consistent ultimately with international environmental treaties.

    c. In the cascading regulatory design, the breadth, depth and scope of WRPs and their contents must be consistent with and reasonably 'integrated'[89] with the subject-matter of environmental treaties, having regard to the localised (specific) expression of the former and the generalised character of the latter. Breadth, depth and scope

[89] See *Water Act 2007* (Cth), s 20.

of WRPs must continue to be a 'reasonably adapted and appropriate' expression of the subject-matter of international environmental treaties.

d. Any substantial deference to Basin State practices or approaches (for example, as proposed in Option 2) would likely defeat or undermine an integral object of the *Water Act*, which is to establish the Commonwealth's pre-eminent role in Basin water resources management such that those resources are managed in the national interest[90] (where that interest includes Australia acting consistently with its international environmental obligations). It is the purpose and intention of WRPs, in our view, to give effect to a clear, common, rigorous and prescriptive standard of water resource management. WRPs must necessarily 'raise the bar' in the administration of Basin water resources. Regardless of State content, WRPs are *national* instruments governing *national* resources.

105. In 'raising the bar' or standard in Basin State water planning, WRPs may be expected – at least over time – to promote more coherent, principled, effective and sound water planning in their jurisdictions. It is the role of the Commonwealth to set those common standards, in a way that is reflective of its international commitments.

106. As the principal regulatory instrument delivering the cascading obligations referred to above, WRPs should be revised and, as necessary, amended in order to give effect to key reforms referred to in these submissions. For example, requisite content of WRPs should be updated to include:

a. Provisions relating to priority environmental flow rules;

b. Design and implementation of water infrastructure decommissioning programs;

c. Priority rules concerning critical human water needs;

d. Storage or infrastructure rules reflecting and/or enabling the general scheme of priority rules, including but not limited to 'debit' approaches to water holdings and allocations (water allocated, under priority rules, according to actual water held in storages);[91] and

e. Rules concerning Aboriginal involvement in design of WRPs and decision-making under them.[92]

[90] See further: *Water Act 2007* (Cth), ss 3(a): 'The objects of this Act are: … (a) to *enable the Commonwealth*, in *conjunction* with the MDB States, to manage the Basin water resources in the *national* interest…' (emphases added).
[91] See further: Wentworth Group of Concerned Scientists *Blueprint for the Next Murray-Darling Basin Plan: Five Essential Reforms for Healthy River Country* (2026) ('*Blueprint for the Next Murray-Darling Basin Plan* 2026').
[92] See further: [127]-[128] of this submission below.

107. Content currently addressed under the scheme of the Basin Plan and reflected in WRPs should generally be retained, insofar as that content is consistent with the 'cascading' regulatory design principle referred to above and reform of water planning to accommodate the measures identified.

108. On the enforcement and enforceability of WRPs, this matter raises issues of design and operation of WRPs where those instruments are intended to traverse Commonwealth and Basin State laws. Step-in powers aside for the moment, WRPs are intended to function in a manner reflecting 'cooperative' federal arrangements, ordinarily by Commonwealth requirements (under the *Water Act* and the Basin Plan) governing Basin State provisions and instruments, bringing the latter into conformity with the former. A test of 'consistency' is required but Basin State provisions (water planning instruments) are not directly enforceable as Commonwealth law. Moreover, much of the administrative machinery of water resource planning lies with the MDB States (including, for example, water information). Poor administration or non-cooperation by a Basin State with Commonwealth water planning obligations poses real risks to the effective and orderly administration of the Commonwealth law and the Basin Plan.

109. In our submission, current 'cooperative' water planning arrangements has real limits, including frustration of the Commonwealth (Basin Plan) scheme. Perhaps the most spectacular example has been the failure of NSW to prepare its WRPs at all or on time. At the operational level, water planning design can or does lead to situations where water information (for example, Basin State hydrological modelling) is not reasonably available or readily fit for the purposes of environmental water management[93] and/or where decision-making on Basin water resources at the level of a Basin State is plainly at odds with management of Basin water resources in the national interest.[94]

110. For the above reasons, we submit that certain new powers and duties would assist in implementing the objects and intentions of the scheme for management of Basin water resources in the national interest:

    a. Insert powers into the *Water Act* (as necessary, reflected in the Basin Plan) by which the Commonwealth Minister and/or the Authority may order the production of any document or information from a Basin State deemed necessary for the proper, orderly and effective administration of the *Water Act* or preparation or implementation of any instrument under the *Water Act*.[95]

    b. Insert provisions into the *Water Act* (as required, reflected in the Basin Plan)[96] to the following effect:

[93] See further: *Blueprint for the Next Murray-Darling Basin Plan* 2026, 22-23 (Actions 18-19).
[94] See further: Cox *The Guardian* 2026.
[95] See further: *Blueprint for the Next Murray-Darling Basin Plan* 2026, 22 (Action 18).
[96] For example, by amendment to *Water Act 2007* (Cth), s 56 and operating independently of step in powers under ss 72-73.

i. In the making of or amendment to a WRP, the Minister and Authority must be satisfied on a reasonable basis that an instrument provided for accreditation or adoption as a WRP (or part thereof or provision thereunder) is consistent with the Basin Plan and the *Water Act* and it is reasonably capable of ensuring the 'environmental watering requirements' in a WRP area will be met;

ii. Where the Minister or Authority is not or cannot be so satisfied, the Minister, on the advice of the Authority and on notice to the MDB States, must prepare a regulatory instrument containing provisions or measures by which the Minister may, on a reasonable basis, be satisfied that the WRP is consistent with or complies with the *Water Act* and the Basin Plan in the management of Basin water resources of the relevant WRP area, including that 'environmental watering requirements' will be met;

iii. The above regulatory instrument (including measures or provisions contained in it) is to be taken to be part, or a provision, of the WRP for the relevant WRP area, notwithstanding any or all other provisions or instruments comprising the WRP under a Basin State law.

c. The step-in powers under section 72 and as applying to section 68 of the *Water Act* would continue to function in respect of WRPs as a whole. The policy intent of the above proposal would be to establish a targeted, specific and direct means of Commonwealth water regulation and intervention, through WRPs, in order to ensure objects and provisions of the *Water Act* and the Basin Plan are met (including in a timely and transparent way). This type of targeted WRP rule-making power may also require *Water Act* amendments to limit or confine the operation of Referring State powers under Part 11A of the *Water Act*.

d. In respect of accreditation provisions under section 63, we submit that any and all powers exercisable by the Authority or the Minister can only occur on their 'reasonable satisfaction' or their 'satisfaction on a reasonable basis'.

Climate change and 'managing climate risks'

111. The Basin Plan Review must consider management of climate risks to Basin water resources. While analysis of climate change informed the 2012 Basin Plan, the effects of climate change did not inform the setting of the SDL/ESLT under that instrument. For that reason, inter alia, the Basin Plan did not and still does not operate on the basis of best available science.

112. The Review is informed by climate science to the extent that findings of the SRA are informed by climate change. The Discussion Paper, including underpinning technical analyses, incorporates this work into the Review by way of one of the 'lines of enquiry' (scenarios), informing 'initial assessment' of SDLs/ESLT going forward.

113. As we have noted above, such assessment of climate change risk is deficient in that it does not consider that 'step changes' to climate conditions and to water resources are and have already occurred and are evident (including as factored into water resources planning in Victoria at least) and, methodologically, climate change impacts on water resources are now known not to be simply a product of linear causality but a product and consequence of cumulative, compounding factors including non-linear feedback loops. State changes ('non-recovery') in streams and aquifers are already occurring as a consequence of climate change. Such considerations are not included in the material informing the Discussion Paper, its technical documents and SDL/ESLT assessments. Almost certainly, on these bases, the approach adopted to date in the Review cannot be considered best available science. It will not adequately or correctly inform planning and policy, including an amended or updated Basin Plan.

114. Further to the above points, the method adopted in the SDL/ESLT assessments and hence the Review to date fails systematically to take into account a critical point of impact of climate change on the water cycle. While the approach proposed accounts for (anticipated) impacts of climate change on stream flows and 'inputs' into water systems, it does not account for climate change effects on water use and output. In particular, climate change will and does have cascading impacts on evapotranspiration as a consequence of rising temperatures. These impacts relate both to water use by crops and by native vegetation. Presently and going forward, the information contained in the Review seriously underestimates climate change risks on Basin water resources.[97] As such, they are not a viable basis on which to consider management of those risks. A more sophisticated, candid and robust approach is required.

115. In our submission, the 'initial assessments' of SDLs/ESLT do not reflect climate risk or provide a proper basis on which management of climate risk for Basin water resources may be considered in the Review. A comprehensive, robust and fully scientific approach to climate change impacts on Basin water resources must be adopted. As it stands, the Authority cannot, in our view, discharge the obligation under subsection 50(4A)(c).

116. We further submit that recalculation of SDLs/ESLTs is required, as informed by climate impacts to date and going forward, and as informed fully and appropriately by contemporary climate science.

117. Although we make no submission here on the specific approach, in our view it is essential that the Basin Plan includes a mechanism for adjustment or indexation of the actual availability of water resources accounting for climate change impacts, being a mechanism

[97] Colloff and Pittock 'Why the sustainable diversion limit assessment in the review of the Basin Plan is not best available science' Submission to the Basin Plan Review, April 2026: 'The SDL assessment technical methods do not effectively consider climate change risks because the scenarios used for increase in mean surface temperature dramatically underestimate the effect that warming has on evapotranspiration and, in turn, the effect evapotranspiration has on runoff and inflows.'

that allocates such risks and impacts so that priority of water availability is for critical human needs, the environment, and other consumptive needs (in that order).

Aboriginal interests in water estates

118. Strengthening of Aboriginal voices and interests in the MDB has been a major development in political, public and institutional discourse since enactment of the *Water Act* and the making of the Basin Plan. This development has been reflected in growing involvement of Aboriginal communities and their representative bodies in water planning and management. It is reflected in part in the law, such as subsection 50(4A)(a) as it relates to the Review and in section 253 concerning review of the *Water Act*.

119. This strengthening of voices and interest reflects, in our submission, the tenacity of Aboriginal communities and their representatives, the force of their connections to their homelands (Country), and that Aboriginal law and authority concerning water estates is compelling and undeniable. The long historic attempt to govern water in the absence of the voices of its Country-men and -women is gone. How statute law governs with them, however, is largely open-ended.

120. The strengthening of Aboriginal voices, rights and interests also derives from generally strengthened and evolving legal protections at the international, national and sub-national levels. Presently, the Basin Plan and the *Water Act* fail to reflect the legal and policy status of Aboriginal rights and interests as they relate to Basin water resources.

121. Aboriginal rights and interests are intended to be addressed in the Basin Plan by way of the consultation measures under Chapter 10 Part 14. In general, those measures have been an abject failure, through which considerable time and effort have been expended and words exchanged for almost no tangible gains or outcomes in WRPs. WRPs were to be that primary vehicle through which those rights and interests were considered.

122. Exercise of Aboriginal rights and interests in any other key action, decision, conduct or measure affecting Basin water resources has not been accounted for and, in practice, risks and failures in Basin water resources management may be felt hardest by Aboriginal communities while they have little or least influence over those management regimes. The fate of the Darling/Baaka is a notorious but likely not exceptional example. Similarly notorious, Aboriginal peoples' ownership or control over water resources in the MDB is negligible, potentially at risk, and governed under a market scheme from which they were effectively excluded and remain excluded. It is hardly surprising that much-lauded water market reforms appear, from this vantage point, to be merely a recent expression of the colonial project.[98]

123. At the same time, organisation and innovation has been a hallmark of Aboriginal peoples' work across the MDB in the course of the Basin Plan. That may be seen in development of

[98] Marshall 'Deconstructing aqua nullius: reclaiming Aboriginal water rights and communal identity in Australia' (2016) 8 *Indigenous Law Bulletin* 26, 9.

cultural flows concepts, waterway assessment models, environmental water management collaborations, ongoing building of organisational capacity, and steadfast advocacy for community and Country. Legislative design of the *Water Act* and the Basin Plan now appear dated, if not anachronistic, on the question of Aboriginal involvement, and the role of Aboriginal law and authority in Basin water resources management. Since passage of the *Water Act*, Australia endorsed the UNDRIP, adopted the *Kunming-Montreal Global Biodiversity Framework*,[99] considerably developed native title jurisprudence, passed 'Traditional Owner settlement' and treaty legislation at the sub-national level, and provided some further recognition of Aboriginal rights and interests in the *Water Act* itself. Not only the clear importance of water estates to Aboriginal peoples in the MDB but their practical role in sustainable water management[100] compels, in our view, substantial strengthening of their legal status under the Basin Plan and the *Water Act* itself.

124. At one level, strengthening Aboriginal rights and interests in Basin water resources involves consideration of the legal mechanism(s) to do so and the circumstances of its (or their) application. The existing 'consideration' provisions applying to WRPs are plainly deficient, ineffective in terms of expressing the will or interests of Aboriginal people, and may have further been administered in a way unfavourable to Aboriginal interests.[101] The present approach contained in Chapter 10 Part 14 is no longer tenable (if it ever was) and the Authority's attempt at interpretation[102] should clearly be discarded.

125. Legal requirements to address and give effect to Aboriginal rights and interests through the Basin Plan should reflect standards and measures provided for under international instruments. Given the weight of international law on design, operation and validity of the Basin Plan, it is appropriate that domestic expression of Aboriginal rights and interests give weight to that source. Various sources and accompanying legal formulae are available to do so:

    a. Many UNDRIP provisions are relevant to water resources management and related decision-making, with two general standards of conduct on the part of government being relevant: consultation in good faith in order to obtain [Indigenous peoples'] consent (the 'free, prior and informed consent' (**FPIC**) provision) and 'effective measures' to provide protections or programmes.

    b. The *Convention on Biological Diversity* has long established obligations on state parties under Article 8(j) and associated guidance directed towards protections of

[99] See in particular at Art 7(a) and Targets 1, 3, 9, 13, 21 and 22.
[100] See further: Walker 2019, 500: 'The overwhelming evidence of the Basin's traditional owners is that its waterscape is intrinsic to their cultural identity. They have deep, valuable cultural knowledge about the behaviour of its ecosystems that should be employed centrally in the co-operative Federal scheme established by the Water Act for its restoration and management.'
[101] Walker 2019, 487.
[102] MDBA *Basin Plan Water Resource Plan Requirements: Position Statement 1B, Interpreting 'Have Regard to'* (23 March 2017).

Indigenous peoples' 'knowledge, innovations and practices' and their 'approval and involvement' in biodiversity conservation.

c. The Ramsar Convention Conference of Contracting Parties has made resolutions for contracting parties to ensure 'participatory management' of Indigenous peoples in wetlands.[103]

126. We would add to this list of forms of expression of Aboriginal (Indigenous) rights or interests in water resource management the approach taken by Canada under its Constitution and related treaties made with First Nations. The Canadian approach requires government to engage in 'deep consultation' with First Nations' peoples affected. Canadian jurisprudence concerning 'deep consultation' is well-developed. It contains procedural and substantive aspects, including the requirement by decision-makers to account for and accommodate First Nations' rights and interests.[104]

127. Although multiple legal formulae addressing recognition of Aboriginal rights in Basin water management are available, amendments to the Basin Plan and *Water Act* may and should (in our submission) proceed on the basis of certain observations:

a. Procedural or substantive rights expressed in law do not exist in a vacuum but are a *function of the fundamental right to self-determination* of Aboriginal peoples. Design and operation of measures under the Basin Plan must be directed and responsive to the question of self-determination. That is a matter the Review must address. Self-determination is not a platitude but a well-developed category of law with which the Authority and Commonwealth must engage in context.

b. By Article 19, the UNDRIP provides key guidance on how the Authority and Commonwealth are to engage with Aboriginal peoples in the MDB for the purposes of the Review and any subsequent amendments, namely consultation and cooperation 'in good faith [with their representatives] in order to obtain their free, prior and informed consent…'. The Authority and the Commonwealth would do well to closely consider and come to a view on what this standard means and how it is to be applied in the present context.

c. All legal standards expressed in international law tend to establish as *minimum standards* the requirement that mechanisms of procedure are integrated into *powers exercisable by Aboriginal peoples (or their representatives) to affect outcomes*. Whether or not this approach may be said to be analogous to a 'right to

[103] Ramsar CoP *Guidelines for establishing and strengthening local communities' and indigenous peoples' participation in the management of wetlands* (Resolution VII.8, 1999), Annex, [7]: 'Involvement of local and indigenous people in resource management falls within the general resource management approach known as *participatory management*. Terms such as collaborative management, co-management, or joint management are more or less synonymous.' [emphasis in original].
[104] See further: Brideau *The Duty to Consult Indigenous Peoples* (Background Paper, 2019-17-E, Library of Parliament, 2019); *Haida Nation v British Columbia (Minister of Forests)* [2004] 3 SCR 511.

negotiate', it is essential that any legal mechanism available to Aboriginal people in respect of Basin water resources is both *a matter of procedure and of power* – that is, power to achieve actual outcomes in relation to Basin water resources as evidencing exercise of the unique and distinctive *jurisdiction* of Aboriginal peoples.

d. The Basin Plan should be amended to establish measures by which Aboriginal cultural knowledge is included in 'best available scientific knowledge and socio-economic analysis.' This approach may be by way of protocol or distinct policy or instrument.[105]

e. A further statutory fact at section 21(2)(a) of the *Water Act* should be inserted that addresses the issue of Aboriginal dispossession of ancestral water estates and adverse impacts on their rights, interests and law,[106] which would allow the Review and amendments to the Basin Plan to include special measures accordingly.

f. Insofar as 'Indigenous rights and interests' are typically expressed in international law as obligations on states, corresponding amendments to the Basin Plan may be best expressed in similar terms.

128. There are certain key programmatic or decision points to which such obligations should or may apply including (but not necessarily limited to):

a. Determination (re-setting) of an ESLT/SDL;

b. The making or amendment of WRPs and rules operating under WRPs (in effect a strengthening of rights and obligations under Chapter 10 Part 14);

c. The making of environmental watering plans;

d. The design, notification or adoption of any SDL adjustment;

e. Design or operation of water trading rules;

f. The making or operation of priority rules, as discussed elsewhere in these submissions; and

g. The making or adoption of measures concerning or applying to water entitlements owned or controlled by Aboriginal people or entities on their behalf.

129. Further, in our submission, the *Water Act* should be amended in order to provide for arrangements by which Aboriginal people, or entities on their behalf, may submit administrative (policy) or regulatory measures to the Authority, as may be within the

[105] See further: Mackenzie et al 2017.
[106] Walker 2019, 500-501.

Authority's functions or powers, for consideration by the Authority. Those provisions should require the Authority to give proper consideration to those proposed measures.

130. Finally, in our view, both the *Water Act* and the Basin Plan will need to be amended to provide for water holdings and the administration of water holdings owned or controlled by Aboriginal people (or their representative organisations). Such measures intend to respond to the proposition of cultural flows, as well as disenfranchisement of Aboriginal people from the water market. While the details of such arrangements are necessarily a matter in the first instance for Aboriginal people and their representatives, we note that a legislative architecture for such 'cultural flows' and potentially Aboriginal water institutions should be actively considered in the present Review context. We understand that a legislative response to Aboriginal water holdings has been under consideration by the Commonwealth for some time.[107]

Critical human water needs

131. Legal provision for critical human water needs under the *Water Act* and the Basin Plan presently only extend to management of water in the River Murray.[108] What has additionally become clear is that the issue of meeting critical human water needs is pressing elsewhere in the MDB, such as in western NSW and in the northern MDB.

132. These are issues of basic human rights. They are matters of human rights generally and obligations in regard to the rights of Aboriginal communities in particular, where for example Aboriginal people are a substantial proportion of affected communities (as in western NSW). The human right to water is integral to Australia's obligations under various international human rights treaties,[109] linked inter alia to the right to an adequate standard of living under the *International Covenant on Economic, Social and Cultural Rights*.[110] The human right to water is intrinsically connected to other key human rights, such as the right to food, the right to health, and environmental rights. Priority is to be given to the right to water for personal or domestic use and the right to life.[111]

133. Significantly, for present purposes, the right to water includes an entitlement to a 'system of water supply and management that provides equality of opportunity for people to enjoy the right to water.'[112]

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[107] DCCEW 'Murray Darling Basin Aboriginal Water Entitlements Program' (Web Page, 14 October 2025).
[108] *Water Act 2007* (Cth), Part 2A.
[109] See further: UN Committee on Economic, Social and Cultural Rights *General Committee No 15: The Right to Water* (E/C.12/2002/11, 20 January 2003), [2]: 'The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses.'
[110] *International Covenant on Economic, Social and Cultural Rights*, Art 11.
[111] UN Committee on Economic, Social and Cultural Rights *General Committee No 15: The Right to Water* (E/C.12/2002/11, 20 January 2003), [6]: '… priority in the allocation of water must be given to the right to water for personal and domestic uses. Priority should also be given to the water resources required to prevent starvation and disease, as well as water required to meet the core obligations of each of the Covenant rights.'
[112] UN Committee on Economic, Social and Cultural Rights *General Committee No 15: The Right to Water* (E/C.12/2002/11, 20 January 2003), [10].

134. While water infrastructure plays a role in meeting those water needs, including upgrading of existing infrastructure, the Basin Plan itself (as well as the *Water Act*) needs to be amended in order to recognise and provide for water security, specifically in the northern MDB and in remote and rural areas of the northern MDB. In our submission, the right to water, consistent with the approach under international law, should be incorporated into the Basin Plan:

    a. As a general rule and proposition (for example, including that matters relating to critical human water needs must include the right to water as expressed in international human rights instruments); and

    b. Through the design and operation of priority rules drafted into WRPs.

135. The right to water as an essential element of 'critical human water needs' should extend, in respect of Basin Plan provisions, to water requirements fulfilling fundamental expressions of the enjoyment of cultural practices for Aboriginal communities. The scope of the concept of 'critical human water needs' therefore should extend to achievement of key aspects of Aboriginal cultural life.[113] Identification and prioritisation of those matters (for example, including the health of certain water estates or places) should be content required under WRPs.

The operation of the *Water Act 2007* (Cth)

136. We note that the statutory review of the operation of the *Water Act* was announced in early April by the Minister for Water. Several of our submissions in this document concern matters better addressed under the formal banner of the operations of the *Water Act*. They include proposals or indications of reform to that Act.

137. In general, it is our submission that the *Water Act* remains world-leading[114] environmental legislation. It is primarily an environmental law, deriving its constitutional validity from environmental treaties and fidelity to them. It is an environmental law directed to the sustainable management of a natural resource (water) intrinsic to ecosystems across 40% of the continent. It is a law for environmental restoration as well as protection of water ecosystems.

138. The core problem the *Water Act* was intended to address – overextraction – has not been resolved or not sufficiently, fully, or in our submission, even in certain respects competently resolved. Our concerns and issues, as included here, remain largely with implementation of that Act. Regardless, we are of the view that certain amendments can and should be made to the *Water Act* to strengthen or clarify aspects of that law, including for example:

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[113] UN Committee on Economic, Social and Cultural Rights *General Committee No 15: The Right to Water* (E/C.12/2002/11, 20 January 2003), [6]: 'Water is essential for securing livelihoods (right to gain a living by work) and *enjoying certain cultural practices (right to take part in cultural life).*' (emphasis added)
[114] Walker 2019, 17.

a. As noted above, measures relating to water resource planning (WRPs) including powers of the Commonwealth to make WRP provisions directly and, in doing so, prioritize outcomes for the environment through rule-based mechanisms;

b. Strengthening and clarifying rights, interests and institutions available and benefiting Aboriginal peoples;

c. Reforming the SDLAM and addressing measures required to implement effective protection and recovery of floodplain ecosystems; and

d. Inserting human rights requirements into the issue of meeting critical human water needs.

139. In our submission, any review of the *Water Act* must be particularly careful to avoid recommendations or outcomes that seek to mitigate or limit the legal effect of the *Water Act* in order to meet deficiencies in its implementation, including deficiencies (as noted above) in design or operation of the Basin Plan. Any such pathway of reform poses the very real risk of straining the operation of the *Water Act* as a law as one faithful to those environmental treaties providing it with constitutional validity.

140. We are available and interested to discuss issues relating to the Review of the operation of the *Water Act*.