Submission to the Draft Northern Victoria Water Resource Plan from Environment Victoria, Environmental Justice Australia, Environmental Farmers Network and Goulburn Valley Environment Group

'Developing WRPs is preternaturally a complicated and challenging task'.[1]

[1] Murray -Darling Basin Royal Commission Report (20190 p519

About Environmental Justice Australia

Environmental Justice Australia (formerly the Environment Defenders Office, Victoria) is a not-for-profit public interest legal practice. Funded by donations and independent of government and corporate funding, our legal team combines a passion for justice with technical expertise and a practical understanding of the legal system to protect our environment.

We act as advisers and legal representatives to the environment movement, pursuing court cases to protect our shared environment. We work with community-based environment groups, regional and state environmental organisations, and larger environmental NGOs. We also provide strategic and legal support to their campaigns to address climate change, protect nature and defend the rights of communities to a healthy environment.

While we seek to give the community a powerful voice in court, we also recognise that court cases alone will not be enough. That's why we campaign to improve our legal system. We defend existing, hard-won environmental protections from attack. At the same time, we pursue new and innovative solutions to fill the gaps and fix the failures in our legal system to clear a path for a more just and sustainable world.

About Environment Victoria

Environment Victoria is the state's peak non-government, not-for-profit environment organisation. Our Healthy Rivers Campaign is dedicated to working with government, communities and business for the restoration and protection of our state's great river systems. We have campaigned for increased flows in northern Victoria's rivers for 15 years and have been engaged in the development and implementation of the Murray-Darling Basin Plan since 2007.

About Goulburn Valley Environment Group

GVEG has for over 35 years been the focus of environmental awareness and protection in northern Victoria's Goulburn Valley. GVEG has been actively involved at all stages of the development of the Basin Plan and the Plans implementation to date and has a unique understanding of Victoria's northern irrigation areas and the needs of the region's rivers and streams.

About Environmental Farmers Network

EFN represents farmers in Southeast Australia interested in sustainable farming in a social, environmental and economic sense. We represent mostly commercial farmers concerned about the impact of climate change on farms, people and landscapes, loss of farm biodiversity and the loss of farmland and relatively natural areas to urban expansion. EFN has direct interest in the Basin Plan with members in most of the basin States.

Introduction

We welcome the opportunity to comment on this draft Northern Victoria Water Resource Plan (NVWRP), including the Comprehensive Report.

In substance the NVWRP appears to be descriptive and, to a degree, analytical, of Victoria's existing water resources management regime in the catchments concerned and proceeds from the assumption that, under existing law and policy, Victoria is compliant with obligations under the Commonwealth Water Act 20017 and the Basin Plan 2012 As far as we can discern this is not the case in respect of the matters below.

In respect of legal construction it is not clear that the proposed NVWRP is compliant with a key intention of the Water Act regime, namely to return water resources in the WRP area to an environmentally sustainable level of take (ESLT). More specifically, it is likely that, under the NVWRP as proposed, there will continue to be compromise of key environmental assets, functions and outcomes in the WRP area.

Matters of interpretation and construction

The Comprehensive Report for the Northern Victoria WRP ('Comprehensive Report') explains Victoria's approach to the preparation of the WRP is to rely on existing water instruments, policy documents and legislative schema to meet the State's obligations under the Basin Plan and the Water Act.

Generally, Victoria's position is that, by way of water management and planning to date, the existing set of instruments and measures will achieve Victoria's obligations.

The disparity in form between Victoria's approach to water management and the integrated planning approach required under the Basin Plan creates significant challenges, albeit not unanticipated, in synthesising and interpreting the two regimes and establishing clearly that Victoria's approach achieves conformity (consistency) with Commonwealth obligations.

Current limitations apparent in the Draft NVWRP include, in summary:

- No clear identification that the correct legal standard applying to the SDL for the WRPA has been applied, in particular that the SDL reflects an ESLT
- Underestimate of the BDL in the WRPA by 32.15GL
- Apparent absence of certain instruments or texts that on reasonable calculation should form part of the WRP, such as Ramsar Site management plans and Ecological Character Descriptions.
- Appropriate or correct treatment of uncertainty where that state of affairs applies to management of water resources, including take and management of risk
- Use of best available scientific knowledge, as a mandatory and particular subset of information
- Environmental water plan arrangements fall short of requirements under the Basin Plan and Water Act
- Shortcomings in construction of and response to risk

- Construction of and assessment of take from interception activities.

Is the SDL under the draft WRP reflective of an ESLT?

One of the key features of the Water Act regime is to establish nested and subsidiary instruments, within the framework of the Act, that bring 'take', including water diversions, to a sustainable level, for the purposes of restoring the overall health of the MDB system including ecological health. Not least because constitutional bases of Commonwealth legislative intervention lie in international environmental treaties, the Water Act regime has been described as an environmental statute.

The Basin Plan includes a long-term average sustainable diversion limit (Basin-wide SDL) of 10,873GL per year, which requires 2750GL of water to be recovered for the environment, with mechanisms to adjust this amount up or down under the certain prescribed conditions. The SDL must reflect an environmentally sustainable level of take (ESLT), which is a term defined under the Act. The MDBA chose to define the Basin-wide SDL as a quantity of water per year.

The setting of the Basin-wide SDL has been the subject of extensive and protracted criticism, most recently by the South Australian Royal Commission into the MDB. In his final report, the Commissioner found that the MDBA had acted unlawfully in setting the Basin-wide SDL according to a 'triple bottom line' approach rather than giving primacy to environmental considerations as required under s 23 of the Water Act. While it is our submission that serious regard must be given to the Royal Commission findings in this respect, and we consider this to be a correct interpretation of the Act, none of that immediately invalidates the Basin Plan, the Basin-wide SDL, or the SDLs set for WRP areas under the Basin Plan.

However, in our submission, the substantive point highlighted by the Royal Commission's findings is the role of the primacy of the ESLT in setting SDLs and the underpinning qualitative considerations in the construction of the ESLT. In short, the SDL set through the NVWRP must also reflect an ESLT for the water resource of the relevant WRP area. This is provided for expressly under subs 22(1) item 6 of the Water Act as well as by necessary implication in the requirement of a WRP to be consistent with the Basin Plan.[2]

In its correct construction the NVWRP must include an SDL reflective of an ESLT for the water resources of this WRP area and, by extension, a level of take that will not compromise key environmental assets, ecosystem functions, the productive base of water resources, or key environmental outcomes. Minimally, this standard requires a level of take capable of maintaining those ecological values set out under Schedules 8 and 9 of the Basin Plan, and establishing the basis for restoration of those values. Moreover, the setting and operation of an SDL must, ultimately, resolve itself in application to actual environmental features and processes. In reflecting an ESLT the SDL refers to and is assessable in terms of quantitative and qualitative environmental values. This should include assessment of 'take' in terms of key features, such as Ramsar Sites or water-dependent protected species consistent with international obligations, among other empirical considerations.

The NVWRP contains no clear statement that it is premised on the above approach. There is reference to the SDL for the NVWRP as representing 'the long-term average of the environmentally sustainable limit on the volume of water that can be taken…' but no precise explanation as to how it is to be reflective of the ESLT for the WRP area or that this is a foundational premise for the SDL. The

[2] Water Act 2007, subs 55(2); see also RC Final Report, p 149; Gardner, et al Water Resources Law (2009), [14.32]

method of calculation for ESLT and SDLs in the chapter 9 of the Comprehensive report differs from that described by the MDBA in their calculation of ESLT[3]

Given the pivotal role of matters that are the subject of international obligations, such as Ramsar sites and treaty-protected species, in the statutory scheme of the Water Act and Basin Plan, it is somewhat mystifying that there is no direct consideration or reference to standards arising under those obligations in the draft NVWRP. For example, despite the importance of hydrological factors, including take, on maintenance of the ecological character of relevant Ramsar sites there appears to be no direct assessment of the SDL against that standard for the Ramsar sites within the NVWRP area.

A further concern is the inability of SDLs as currently constructed to prevent damage to rivers. The Goulburn River, a declared Heritage River is increasingly suffering the impacts of unnatural high summer flows as a result of water entitlements, both permanent and temporary, being transferred downstream for consumptive purposes.

These high flows are negating riparian vegetation gains being made by the use of environmental watering during spring and autumn months. There is a risk of irreversible or serious harm to the Goulburn River, the risk management framework should assess and reflect this risk.

SDL requires recalculation

We have had the benefit of reading the draft of the submission from the Wentworth Group of Concerned Scientists on the draft NVWRP. It is of particular note and concern that, notwithstanding anything else in our submission, the WGCS have reviewed the modelling underpinning the calculation of the SDL for the WRP areas at issue and found that the Baseline Diversion Limit (BDL) is underestimated by 32.15GL. That is to say, a further 32.15GL will need to be recovered for the environment, even on the approach taken in this document, for the SDL to be met.

The Wentworth Group rise further concerns about the modelling used to develop the WRP and recommends that the WRP should not be accredited until the model is finalised and tested. We support this recommendation.

Construction of the SDL, including SDL Adjustment Mechanism (SDLAM) projects

The Draft NVWRP provides that the meeting of the SDL for the combined WRP area is to be achieved by way of:

- Local recovery,
- Shared recovery, and
- 'offsets', to be achieved via SDLAM projects which are identified at Schedule 1, Appendix 6.

Even assuming the first two categories achieve the anticipated outcomes in terms of environmental water recovery,[4] it appears highly questionable that the proposed SDLAM projects will achieve the objectives of environmental equivalence or improvement as provided for under section 7.09 of the Basin Plan and, more specifically will contribute to an SDL that reflects an ESLT.

[3] MDBA (2012) Hydrologic modelling to inform the proposed Basin Plan p iv
[4] Table 2, Appendix C, p 902

Expert assessment of SDLAM projects by the Wentworth Group, including most of those proposed or undertaken in Victoria, indicate that the large majority will not achieve objectives required under the Basin Plan, are likely non-compliant, do not have sufficient information to permit assessment, and/or should not be approved.[5] In respect of projects intended to be delivered in the NVWRP area key shortcomings are lack of water to be delivered and/or failure to contend with constraints.

Further the Productivity Commission has raised serious concerns about the SDLAM projects in its Five Year Assessment of the Basin Plan, noting the need for integrated assessment and robust review, and that not all projects may produce the anticipated outcomes. The Productivity Commission estimates the cost of failure of key projects, including constraints management, hydro-cues and the Menindee lakes project, at $564 million.[6]

It is not clear or certain that projects directed to Gunbower National Park, the Hattah Lakes or the Barmah Forest will manage water resources in such a manner so as to maintain the ecological character of Ramsar sites and by extension meeting Australia's international obligations to protect and restore those sites.

Furthermore, the premise and paradigm under which environmental works projects are to be constructed to give effect to the SDLAM relevant to this WRP area is flawed. The premise appears to be that further engineering and modification of the hydro-ecology of WRP area - in essence, the treatment of ecosystem management as analogous, via environmental watering, to irrigation – will deliver environmental outcomes required, including restoration of riverine and floodplain systems. It is unlikely that this approach will achieve the outcomes foreshadowed, not only because insufficient volumes of water will be dedicated to those tasks (eg in order to maintain water-dependent floodplain woodlands) but because the approach does not account for the inherent, natural ecological complexity of these water systems. The engineering paradigm of environmental watering will not accommodate the needs of flood-dependent ecosystems,[7] which require greater focus on constraints management and flow regimes approximating a *quasi-natural* water regime. In short, trajectories of de-engineering (or perhaps 'soft engineering') are required to achieve key objectives under the Water Act and Basin Plan, rather than intensified ('hard') engineering solutions.

Form of NVWRP

A WRP may comprise more than one instrument of text and that the form of a WRP might include a bundle of instruments and texts.[8] That is part of the process of disparate State regulatory schema operating within the single, common scheme of the Basin Plan and Water Act.

Victoria's position has been that the WRP will include an 'index table' of relevant instruments and texts.[9] This index does not appear to be available with the Comprehensive Report, in which case it is not possible to consider whether all relevant, necessary or appropriate instruments or texts are

[5] Wentworth Group of Concerned *Scientists Submission to Murray-Darling Basin Authority on Sustainable Diversion Limit Adjustment Draft Determination*, 3 November 2017, https://wentworthgroup.org/2017/11/submission-to-murray-darling-basin-authority-on-sdl-adjustment-draft-determination/2017/

[6] Productivity Commission (2019) *Murray Darling Basis Plan: Five year Assessment Overview* p16-21

[7] Wentworth Group of Concerned Scientists *Review of Water Reform in the Murray-Darling Basin* (2017), Appendix 1, pp 14-17

[8] Basin Plan 2012, s 10.04(2); Water Act 2007 (Cth), s 55(3)

[9] Draft Comprehensive Report, p 12

included in the NVWRP. Nor is there a single location within the WRP comprehensive report where all the proposed accredited text is located, making the document very difficult to navigate.

On a close reading of the Comprehensive Report it is anticipated that instruments or texts would include regulatory instruments (eg Bulk Entitlements) and non-statutory policy instruments (eg Take and Use Policy, groundwater area management plans, Water for Victoria). This is not problematic in itself but it is not clear how (or indeed, that) all relevant instruments or texts comprising the NVWRP are to be identified and characterised as such. The proposed accredited text on page 11 may purport to have this function. If the references at pp 506-508 and 877-889 are intended as instruments or texts comprising the WRP then this should be clearly stated. Further, if so, the list needs to be amended to remove any texts not applicable to Basin water resources or which are legally incapable of forming part of the WRP (eg Water Act 2007 (Cth)).

A key purpose of the WRP, within the Basin Plan and Water Act regime, is to give effect to relevant international agreements. Certain important instruments and texts prepared at the State level are integral to meeting Australia's obligations in this respect and these documents need to be incorporated into the bundle of text and instruments comprising the WRP. It seems extraordinary that they are not. These include:

- Ramsar Site Management Plans for Ramsar sites within the WRP areas
- Ecological Character Descriptions of the same
- The Directory of important wetlands in Australia
- Action Statements or Recovery Plans applying to relevant protected species or communities.

Treatment of uncertainty and application of precautionary principle

Water resource management typically proceeds subject to varying degrees of uncertainty. This uncertainty is expressly identified in relation to certain matters dealt with the in the Comprehensive Report, such as estimations of take from farm dams. Discussion of uncertainty is notably absent from other sections of the Comprehensive Report and NVWRP.

For example:

- Environmental watering is inherently characterised by uncertainties, such as whether environmental water can be delivered, delivered in a manner that actually benefits ecosystems, or achieves outcomes it purports to achieve;
- A range of uncertainties operate in relation to risks identified in the Comprehensive Report, including whether proposed strategic responses to risks will or are likely to address the elaborated risks. The WRP should identify limitations on the state of knowledge relating to water resources in the WRP area or in other words uncertainties concerning estimates.[10] Calculation of all forms of take appear to be subject to some degree of estimation.[11] In particular uncertainty due to climate change is not acknowledged, given the Comprehensive Report expressly states (in accordance with the Basin Plan) that the method of setting out the SDL is based in historic climate data rather than projections of the impact of climate change on water resources.[12]

[10] Water Act 2007, subs 22(1) item 3
[11] Eg Table 4 at Appendix C, p 906
[12] Appendix C, p 927

- The setting of the SDL refers in significant part to various SDLAM projects (described in Schedule 1 of Appendix C), many of which are in the planning, design, works or investigation stage and have not made any actual contribution to the SDL (as reflecting the ESLT for the WRP area). No consideration of uncertainty – and certainly not quantification of uncertainty – appears to be applied to these projects.

Given the bases on which the Basin Plan was prepared and the scheme of the Water Act is intended to operate, including principles of ecologically sustainable development, if there is a risk of irreversible or serious harm to water resources in the WRP area (or, for example, environmental assets or functions dependent on them) it is necessary to assess degrees of uncertainty involved and respond in a precautionary manner. At a minimum, this calculation arguably applies to features such as priority environmental assets,[13] functions or processes. It requires what the SA Royal Commissioner refers to as providing a 'buffer' against degradation.

Despite the likely, extensive operation of uncertainty in relation to much, if not most, of the subject-matter of the NVWRP identification of a precautionary approach and application of precautionary measures to water resources in the WRP area are absent from the Comprehensive Report.

This failure to account adequately and specifically for precaution in management and planning of water resources in the NVWRP area suggests the NVWRP would be unlawful if accredited on this basis.

Best available information and best available scientific knowledge

The Basin Plan states that a WRP must be prepared on the basis of best available information and describe those sources of information (s10.49). This requirement is different from the Water Act which requires the MDBA and Minister to 'act on the basis of best available scientific knowledge and socio-economic analysis' in the development of the Basin Plan(s21(4)(b)).

It is doubtful that the NVWRP meets either of these criteria because it does not reference documents relevant to international agreements and Ramsar sites in particular, including the Ramsar site management plans and Ecological Character Descriptions, which are surely a component of best available information. Considerable doubt surrounds the scientific basis of the SDLAM projects and their assessment is not yet complete, and in addition Victoria's socio-economic analysis has been severely critiqued by the SA Royal Commission and others as limited in scope and unfit for purpose. Together with the shortcomings of the risk analysis, it would appear that the WRP is not based on best available scientific knowledge.

The period of accreditation of the NVWRP is also a cause for concern. The proposed accredited text states that the NVWRP will 'cease to have effect at the end of the accreditation period in accordance with section 64 of the Water Act 2007 '.[14] The meaning of this statement is unclear due to the ambiguous wording of s64 of the Water Act which states that 'The accreditation of a water resource plan ceases to have effect at the earlier of the following times:

(a) when the water resource plan ceases to have effect;'

[13] See eg in respect of Ramsar sites, *Limits of Acceptable Change* (Ramsar COP 11 Doc. 24, 2002) [102-[109], https://www.ramsar.org/sites/default/files/documents/pdf/cop11/doc/cop11-doc24-e-limits.pdf
[14] Comprehensive report p 18

One possible interpretation of these inconclusive statements is that the NVWRP will cease to have legally binding effect once the accreditation process is complete and Basin Plan implementation would then revert to Victorian law and management framework.

It is interesting to note that the Independent Panel that reviewed the Water Act in 2014 recommended against making any changes to the accreditation of WRPs.[15] Nevertheless the previously clear wording of s64 ' the accreditation of a WRP ceases to have effect at the end of a period of 10years' was amended to the current ambiguous clause.

The accredited text of the NVWRP should make clear what the period of accreditation actually is – be it 10 minutes or 10 years.

Failure of risk assessment to describe strategies addressing risks in a manner commensurate to the level of risk

The Basin Plan requires risk assessments prepared under the WRP to include description of risks, attach a level of risk to each, explain data and methods underpinning the risk assessment, identify uncertainties, and describe strategies for the management of risks to water resources that address risks in a manner commensurate with the level of risk.[16] There is an extensive risk assessment exercise outlined in the Comprehensive Report. Degrees of confidence in various risk assessments are identified in this exercise although it is not clear what this means in terms of quantification of uncertainties or, more importantly, whether or what degree of precaution (or 'buffers' to risks) has been incorporated into the strategic responses to identified risks.

More significantly, it is questionable whether strategic responses identified in relation to 'environmental uses' are likely to address key risks identified in a manner commensurate to the attached level of risk. The concept of commensurability provided for under s 10.43(1) infers a response that is corresponding or proportionate to risk.

Climate change impacts on water resources are a case in point.[17] Relatively generic responses are identified, such as delivering long-term watering plans, environmental works and measures derived from Water for Victoria and ongoing assessment of climate change impacts. The draft WRP contains no particulars of climate change impact projections, including on key environmental assets, ecosystem functions, outcomes or the productive base of water resources, and consequently no specific details on how the responses identified will address risks to these natural features and phenomena in a manner commensurate to risk.[18]

The risk assessment method provided under the Comprehensive Report does not include risk associated with take for consumptive purposes on key environmental matters as provided for, for instance, under section 4.02(1) of the Basin Plan. Nor does it consider interaction between the identified risk, for example the increased risk of bushfires due to climate change or the impact of climate change on interception or land use. These are significant gaps in the risk assessment.

[15] http://www.agriculture.gov.au/water/policy/legislation/water-act-review
[16] Basin Plan 2012, ss 10.41, 10.43
[17] See Table 3.2.10, Appendix B, p 702
[18] Categories of strategic response to risk are described at Table 4.2.1, Appendix B, pp 853-874

Interception Activities

Farm dams

The consideration of interception activities under the draft WRP is problematic. Degrees of uncertainty applying to assessment of potential impacts of farm dams (take under private rights) on water resources in the WRP area are exceptionally high (50-100%). Despite this uncertainty and expectations of growth in farm dams, no application of precaution or 'buffering' in assessment of water resources is included in the draft WRP. Indeed uncertainty is used as a basis for dismissing any attempt at calculation of increased take in relation to future growth in farm (runoff) dams.

Interception of water resource via take under private rights is potentially a significant factor in the overall management of water resources across northern Victoria. Its impact is unreasonably dismissed or downplayed under the Comprehensive Report. In part this appears to be a product of the historic difficulty in calculating take for stock and domestic purposes and reluctance to regulate this form of take. The conclusion that, in the context of anticipated growth in farm dams, no increased net take by run off dams is expected[19] – and therefore no significant impact on water resources from this source needs to be accounted for – is untenable. This conclusion is premised on the idea that climate change will lead to reduced inflows into runoff dams even where numbers of those dams increases.

In fact the impact of runoff dams on overall water availability will increase significantly under climate change. The situation during the Millennium drought serves as an example. In the low rainfall year of 2008/09, the Victorian Water Accounts reveal that catchment inflows in the Campaspe basin were 46,100 ML. Small catchment dams captured 19,100 ML or 41% of the available inflows, a much greater proportion than in years of higher rainfall.[20] While small catchment dams as defined in the water accounts include both licenced and unlicensed dams, the impact on other users and the environment is very real and likely to be replicated in future under climate change.

In addition the flows that do occur will be intercepted by an increasing number of private dams. The Basin Plan requires specification of interception activities with the potential for significant impacts on water resources in the WRP area.[21] The construction and use of runoff dams is the relevant interception activity to be accounted for under Part 5 of Chapter 10. In circumstances of reduced water resources (as climate projections predict) increasing number of private dams will intercept a proportionately greater proportion of water resources.

The consideration of potential impacts from farm dams in the draft WRP is incorrect. It may be that the impact of farm dams and take under private rights in northern Victoria actually increases in the context of constrained availability of water resources under regulatory schemes and under drying climatic conditions, as landowners seek to maximise storage on-farm. The calculation of take by runoff dams at 84GL[22] seems to be at best highly uncertain and potentially misconceived. At a minimum, this calculation needs to account for degrees of uncertainty and corrected assumptions.

[19] Comprehensive Report, p 385, Table 11-5
[20] Victorian Water Accounts 2009/09, p 133
[21] Basin Plan 2012, s 10.23(1)
[22] Comprehensive Report, p 386

Land use changes: cropping

Little attention appears to be given in the Comprehensive Report to potential impacts of land use changes on water resources, in particular shifts to dryland cropping and/or application of soil moisture retention techniques in cropping landscapes. This may have significant cumulative impacts on water resources, for instance where there is increased loss of water to evapotranspiration and hence decreased runoff. Those cumulative impacts[23] should properly be assessed in relation to the extent of relevant land use change combined with estimated changes in water balance arising from application of water retention techniques.

The Comprehensive Report makes the assumption that there will be little change in land use over the lifetime of the WRP. Given the significant shift of water entitlements and use from the GMID to Sunraysia and the large downstream horticulture developments, this is a big assumption and should be revisited.

Environmental watering

The overarching purposes of environmental watering are to protect and restore the wetlands and environmental assets of the MDB and protect water-dependent biodiversity. The bases for these intentions derive particularly from Australia's commitments under international treaties and conventions. Chapter 8 of the Basin Plan provides for a more specific scheme for environmental water planning. The Basin Plan specifically requires environmental water management to occur in a manner consistent with international agreements, as well as achieve a range of related environmental objectives and outcomes. The WRP must be consistent with the environmental water management scheme, which in practice comprises a series of nested and subsidiary arrangements from the Basin-wide environmental watering strategy to long-term environmental watering plans for Northern Victoria and for the Murray and environmental water plans for key waterways and wetlands in the WRP area.

Environmental watering has undoubtedly delivered benefits to ecosystems within the NVWRP area where it has occurred in comparison to absence of those actions. Environmental watering programs to date appear not to have arrested decline in the ecological condition of water-dependent ecosystems overall, either because there are a great many waterscapes where environmental watering has not occurred and there are circumstances where environmental watering has not (or not sufficiently) been delivered in a manner capable, at least as yet, of reversing decline in ecological health. Ongoing adaptation of watering programs is no doubt relevant here. But serious regard must be had to the design and ambition of those programs.

One important indicator of whether environmental watering plans will deliver on obligations under the Basin Plan and Water Act is to consider whether measures established under those plans will maintain the ecological character of Ramsar sites within the NVWRP area. Not only are these sites representative of key ecosystems but EWPs and WRPs are required to protect and restore those sites. In key instances, hydrological and ecological limits deemed necessary to maintain ecological conditions of those sites are likely to be exceeded under the NVWRP regime. Where degrees of uncertainty are apparent in those assessments again precaution and appropriate proactive steps need to be taken to meet Australia's international obligations in this respect.

[23] Cumulative impacts of interception activities must be accounted for in assessment of potential significant impacts on water resources: Basin Plan 2012, s 10.23(1)

Priority environmental assets and priority ecosystem functions

The NVWRP defines priority environmental assets as 'those rivers and wetlands that can be managed for environmental outcomes with held environmental water'.[24] Practically, this is clearly problematic approach and does not align with the initial selection of indicator sites in the development of the Basin Plan, which was based on ecological values, not the ability to deliver held water. In addition it fails to acknowledge the impact of constraints on the ability to deliver water to potentially high value assets. The shortcomings of the NVWRP approach are exemplified by the comment that 'updates have been made to the list of priority environmental assets since the 2015 long-term watering plans were completed, including the removal of several priority assets that cannot be managed with held environmental water. These changes are purely editorial…'[25] Surely a priority asset should have high ecological value, which is independent of the ability to deliver water – the required response is to seek ways to enable the delivery of water, not simply to remove the asset from the priority list. To do otherwise arguably fails to implement Principles 9 and 10 as these are to be applied to environmental watering under the Basin Plan,[26] and the objectives and outcomes under Part 2 of Chapter 8.

In short, it is not acceptable and it is potentially unlawful for the scope of 'priority environmental assets and priority ecosystem functions' to be narrowed to fit existing, limited policy ambitions and preferences.

The treatment of priority ecosystem functions is equally bizarre. Longitudinal hydrological connectivity is identified as a priority ecosystem function in the Northern Vic WRPA but not in the Vic Murray WRPA, whereas lateral hydrological connectivity is identified in the Vic Murray WRPA but not in the Northern Vic WRPA.[27] While it is possible that it is easier to achieve lateral connectivity in the Murray than in its tributaries under the current set of constraints, this does not mean that lateral connectivity is not important for achieving Basin Plan outcomes, particularly in the Goulburn.

Managing constraints is essential for achieving lateral connectivity in both WRP areas, and are an essential requirement for the success of SDLAM projects. The risk of failure to address constraints is significant due to slow progress and lack of commitment from Basin jurisdictions.

Held and planned environmental water

The NVWRP identifies 'water specifically allocated in bulk entitlements for environmental benefit or purposes such as minimum environmental flows' as held environmental water.[28] It does not give any examples of this type of held water nor is any included in the list of Held Environmental Water in Table 3, Appendix E. We would therefore very much like to know what this category of held environmental water includes and which instruments provide it, what environmental objectives it is intended to meet and how it is made available to Environmental Water Holders for use.

It may be that obligations under bulk entitlements or conditions on take and use licences make environmental contributions but, to the extent these measures are not accountable as 'environmental water', they do not appear to be measures contributing (at least with legal certainty, if not scientific certainty) to Basin Plan Chapter8, Part 2 objectives and outcomes.

[24] Comprehensive report p 406
[25] p407
[26] Basin Plan 2012, ss 8.41 and 8.42
[27] p410
[28] P399

To the extent it can be demonstrated scientifically that environmental obligations or conditions in legal or policy instruments (for example, bulk entitlement orders, sustainable water strategies, waterway strategies, regional catchment strategies, etc) can contribute to Part 2 objectives and outcomes, including enabling the watering of a full and expansive complement of priority environmental assets and ecosystem functions, these should be provide the basis for rules for environmental watering under sections 10.17-10.21 of the Basin Plan.

The NVWRP identifies little 'planned' environmental water as defined by the Commonwealth Act.

The definition of 'priority environmental assets' noted above appears to be a 'reading down' of the concept of 'priority environmental asset' under section 8.49(1)(b) of the Basin Plan[29] to the extent that Victoria's approach to environmental water is limited to 'held' environmental water. This may be a response to the purported absence of any form of 'planned' environmental water in Victoria as a consequence of the legal construction of 'environmental water' under the Water Act 2007 (Cth) and applied to water instruments under Victorian water law.

If this is the case, in our view, considerable difficulties are likely to arise for environmental watering under the NVWRP in meeting standards set out by the Principles in Basin Plan Ch 8, Division 6, such as the requirement for consistency with international obligations, as well as meeting the objectives under Ch 8, Part 2. We note in particular that, while environmental watering has had environmental benefits for water-dependent ecosystems in the WRP area, this is not necessarily at a level capable of achieving the objectives and outcomes under Chapter 5 or the objects of the Water Act 2007 as these apply to the WRP area, notably the protection and restoration of water-dependent ecosystems and the giving effect to relevant international agreements. At best current environmental watering arrangements appear capable of partially achieving these objectives and outcomes – for example, through watering of priority sites but not to the extent of watering all water-dependent communities (eg flooding regimes watering red-gum communities but not Black box), failure or reluctance to achieve lateral connectivity through overbank flows onto floodplains.

This is to say that, notwithstanding the values of environmental watering, it is insufficient to meet the standards required under the Basin Plan 2012 and Water Act 2007. This is in part foreshadowed by the note to Ch 8, Part 2 of the Basin Plan – that denoted objectives for environmental water will also be 'supported by other management action'.

These 'management actions' do not appear in the NVWRP. The NVWRP should spell out plainly and expressly what contribution environmental watering is to make to the Part 2 objectives and outcomes and what complementary contribution(s) are to be made by other 'management actions', what these action are, and how they will, scientifically demonstrated, do that work.

[29] See also section 8.50(1)(b) in relation to priority ecosystem functions.