

23 September 2016

Bev Smiles
Inland Rivers Network

By email:

Dear Bev

Proposed Menindee Lakes Scheme Supply Measure and Prerequisite Policy Measures (Water Shepherding)

1. You have requested advice regarding the relationship between the proposed Menindee Lakes Scheme Supply Measure (**MLS Supply Measure**) and Prerequisite Policy Measures (**PPMs**). Specifically, you have sought advice as to whether the Basin Plan requires a PPM – namely water shepherding in the Barwon-Darling – to be undertaken in order to successfully implement the MLS supply measure.

Executive Summary

2. If water shepherding in the Barwon-Darling is not given effect by 30 June 2019, the ‘un-shepherded’ volume of water will have to be deducted from the ‘savings’ made under any notified supply measures (as required under cl. 7.15 of the Basin Plan).
3. To clarify, if water shepherding is not given effect by 30 June 2019, there is a statutory obligation that the aforementioned deduction take place. This deduction must occur *regardless* of whether or not the sustainable diversion limit (**SDL**) for the Barwon-Darling¹ could theoretically be met over the long-term without water shepherding being implemented.
4. Given the relationship between shepherding and inflows into Menindee Lakes, it is reasonable to assume that any ‘un-shepherded’ water would be deducted from the MLS Supply Measure (assuming the MLS Supply Measure is notified under cl. 7.12 of the Basin Plan).
5. If the volume of ‘un-shepherded’ water is large enough, it could completely cancel out the ‘savings’ associated with the MLS Supply Measure. This would mean that the MLS Supply Measure could not be implemented (or implemented in full), which would in turn reduce the overall supply contribution under the SDL adjustment mechanism. This would have a knock on effect on supply measures and environmental outcomes in the Lower Darling and Murray River.
6. Failure to implement water shepherding would also influence the calculation of ‘equivalent environmental outcomes’ as prescribed under the Basin Plan. That is, it may make it more difficult to stay within the ‘limits of change’ (prescribed in Schedule 6 of the Plan). Further advice should be sought on this issue from an appropriately qualified expert.

¹ That is, the SDL prescribed under the Basin Plan.

7. We also recommend that you seek further information from either DPI Water or the Murray-Darling Basin Authority (**MDBA**) regarding first, the likely contribution to inflows into Menindee Lakes associated with water shepherding and second, the impact of failing to implement the MLS Supply Measure on other supply measures and environmental outcomes in the Lower Darling and Murray River.
8. Finally, the 'ecological elements method'² (concerning 'equivalent environmental outcomes' for supply measures) may not satisfy the requirements of Schedule 6 of the Basin Plan. We recommend that you request further advice about this matter from an appropriately qualified expert.

MLS Supply Measure and PPMs

Basin Plan

9. Chapter 7 of the Basin Plan concerns the sustainable diversion limit (**SDL**) adjustment mechanism, which if implemented will alter the 2,750GL benchmark reduction scenario.
10. Clause 7.15 outlines the method for calculating notified supply measure contributions. Relevantly, this clause requires any 'unimplemented policy measures' (also known as PPMs) to be subtracted from the 'notified supply measures'. Put differently, failure to 'give effect to' any relevant PPM by 30 June 2019³ will reduce the quantity of water that is redirected to the consumptive pool as a consequence of one or more supply measures.
11. Unimplemented policy measures or PPMs are defined as 'an anticipated measure consisting of a policy to: (a) credit environmental return flows for downstream environmental use; or (b) allow the call of held environmental water from storage during un-regulated flow events...'.⁴
12. We further note that clause 7.15(1) requires supply measure contributions to first, achieve 'equivalent environmental outcomes'⁵ and second, to ensure that there are 'no detrimental impacts on reliability of supply of water to the holders of water access rights that are not offset or negated'. 'Equivalent environmental outcomes' is discussed in subsequent sections of this advice, while the notion of 'no detrimental impacts on reliability of supply' is analysed in the letter attached at **Appendix 2**. If necessary, we can provide additional, detailed advice about the correct legal construction of this phrase (within the broader context of the Water Act and Basin Plan).

Significance of PPMs

13. We have analysed a number of documents in order to understand the legal and practical significance of PPMs, paying particular attention to 'water shepherding' in the Barwon-Darling (due to its effect on inflows into Menindee Lakes).
14. First, 'water shepherding' is provided for in a Memorandum of Understanding between the Commonwealth and NSW (**MoU**). Briefly, the MoU requires water shepherding

² Overton IC, Pollino CA, Grigg NJ, Roberts J, Reid JRW, Bond NR, Barma D, Freebairn A, Stratford D and Evans K. 2015. *The Ecological Elements Method for adjusting the Murray-Darling Basin Plan Sustainable Diversion Limit*, CSIRO, Canberra.

³ The definition of 'unimplemented policy measure' specifies this date: Cl. 7.15 (2).

⁴ Cl. 7.15(2).

⁵ Relative to benchmark environmental conditions, that is relative to environmental outcomes achieved under the 2,750GL/year reduction scenario. See also cl. 7.17.

arrangements to be developed so as to protect the Commonwealth's environmental water (**CEW**) from consumption as it moves through the Barwon-Darling system. It also requires 'recognition of CEW as it flows into or past the Menindee Lakes' and to make this water 'available for use at the direction of the CEWH' (subject to certain conditions being met).⁶

15. In response to this MoU, NSW developed a document for consultation in 2012 entitled 'Proposed arrangements for shepherding water in NSW' (**Proposed Arrangements**). This included explicit discussion of the proposed arrangements for shepherding water through the Barwon-Darling system to Menindee Lakes. EDO NSW wrote a submission critiquing the Proposed Arrangements. This is attached at **Appendix 1**.
16. Second, in 2015 the former NSW Office of Water sought feedback on a document entitled 'Draft NSW Prerequisite Policy Measures Implementation Plan' (**Draft PPM Plan**). The Draft PPM Plan specified that water shepherding through the Barwon-Darling 'is a proposed option to meet the environmental flow reuse PPM in the unregulated Barwon-Darling system'.⁷ In other words, this clarifies that water shepherding in the Barwon-Darling constitutes a PPM as defined in cl. 7.15(2) of the Basin Plan. EDO NSW wrote a letter critiquing the Draft PPM Plan. This is attached at **Appendix 2**.
17. Third, the hydrologic modelling that was undertaken to inform the Basin Plan assumes that shepherding will be implemented in the Barwon-Darling. Put differently, the SDL for the Barwon-Darling that is prescribed in the Basin Plan assumes three things: that environmental water will be shepherded through the Barwon-Darling; that this environmental water will be protected from consumptive use; and that this water will accordingly contribute to inflows into Menindee Lakes.⁸

MLS Supply Measure

18. The 'SDL Adjustment Stocktake Report'⁹ (**Report**) provides information about a range of proposed efficiency and supply measures, including the MLS Supply Measure.
19. According to the Report, the MLS Supply Measure involves operational and structural changes that will reduce evaporative loss. The plausible supply contribution range associated with this supply measure is 50-80GL, with 'potential to achieve up to 100GL if the project were enhanced to include consideration of the approximately 40GL available from lowering demands on the MLS and considering flows from the northern basin'.¹⁰
20. The Report outlines risks associated with each supply measure and assigns a level of confidence (low, moderate, high) regarding the resolution of these risks. Risks associated with the MLS Supply Measure include the following: '[i]mplications of water shepherding of northern environmental water to the MLS will influence savings'. This particular risk is assigned a 'low' confidence level,¹¹ with the relevant footnote stating that it '[w]ill remain a significant concern without conciliation'.¹² This is no doubt because – as outlined above – the Basin Plan SDL for the Barwon-Darling was based on modelling that assumed shepherding would be successfully implemented.

⁶ MoU, cl. 18.

⁷ Draft PPM Plan, p. 8.

⁸ Murray-Darling Basin Authority, *Hydrologic modelling to inform the proposed Basin Plan: Methods and results*, February 2012, pp. 104-5,113.

⁹ Warren Martin and Graeme Turner, *SDL Adjustment Stocktake Report*, August 2015.

¹⁰ *Ibid*, p. 72.

¹¹ *Ibid*.

¹² *Ibid*, footnote 11.

21. Consequently, if environmental water is not shepherded through the Barwon-Darling and delivered to Menindee Lakes, the 'un-shepherded' volume of water will have to be deduced from the 'savings' made under the MLS Supply Measure (as required under cl. 7.15).
22. We have been unable to obtain data indicating the extent to which water shepherding will contribute to inflows into Menindee Lakes. We recommend that you request clarification from either the MDBA or DPI Water regarding this matter. However, if the volume of 'un-shepherded' water is large enough, it may completely cancel out the 'savings' associated with the MLS Supply Measure.
23. It is likely that failure to implement the MLS Supply Measure would have a knock on effect on supply measures and environmental outcomes in the Lower Darling¹³ and Murray River.¹⁴ As a consequence, it may be more difficult to satisfy the 'limits of change' test set out in Schedule 6 of the Basin Plan (and which must be met before supply measures can be approved).¹⁵ We recommend that you seek further advice about this issue from an appropriately qualified expert.
24. It is important to note that even if the SDL for the Barwon-Darling could in theory be complied with over the long-term (with or without shepherding), cl. 7.15 categorically requires any unimplemented PPM to be deducted from the overall supply contribution.
25. Furthermore, the method for calculating supply contributions set out in Schedule 6 requires explicit consideration of whether or not the targets for hydrologic indicator sites are met within the 'limits of change' (relative to the benchmark model for the 2,750GL/year scenario). That is, the method – as prescribed by law – requires more than the satisfaction of a long-term annual average SDL.

Equivalent Environmental Outcomes

26. For the sake of thoroughness, we have considered the requirement that supply measures achieve 'equivalent environmental outcomes'.¹⁶ To that end, we have analysed both the method set out in Schedule 6 of the Basin Plan and the CSIRO Report summarising the 'ecological elements method' developed to satisfy the requirements of cl. 7.15 and Schedule 6 (in particular S6.04).¹⁷
27. Relevantly, S6.03 of Schedule 6 specifies the indicator sites and regions that are to be used under the 'equivalent environmental outcomes method'. We note that the regions that are to be used are both the northern Basin and the southern Basin. Each reach within these two regions is to include one hydrologic indicator site (**HIS**) used under the Environmentally Sustainable Level of Take (**ESLT**) method (used to calculate SDLs under the Basin Plan).

¹³ This is confirmed in the Stocktake Report, which states at p. 26 that '[t]he Lower Darling business case will be dependent upon the nature of any supply measure proposal brought forward for the Menindee Lakes.'

¹⁴ The Stocktake Report refers to links between the supply measure proposal for Hume Dam and the MLS supply measure. See for e.g. p. 72.

¹⁵ Basin Plan, Schedule 6, S6.07.

¹⁶ Basin Plan, cl. 7.15(1).

¹⁷ Overton IC, Pollino CA, Grigg NJ, Roberts J, Reid JRW, Bond NR, Barma D, Freebairn A, Stratford D and Evans K. 2015. *The Ecological Elements Method for adjusting the Murray-Darling Basin Plan Sustainable Diversion Limit*, CSIRO, Canberra.

28. Reference to both regions (i.e. the northern Basin region and the southern Basin region) is repeated in S6.07, which outlines the '[l]imits in change in score or outcomes'. By way of contrast, the note to S6.06 does state that '[t]he method may be applied using separate modelling runs for the northern and southern Basin, or parts therefore, as necessary to determine relevant supply contributions'.
29. The CSIRO Report only includes HISs and ecological assessments for the southern Basin.¹⁸ That is, it does not include a HIS north of Menindee Lakes. This may be inconsistent with the requirements of Schedule 6 for the following three reasons.
30. First, the note attached to S6.06 is to be read within the context of the substantive provisions in Schedule 6 which outline how the method is to be developed and applied.¹⁹ This context includes both the northern and southern Basins, and a method that is designed to test via modelling whether 'equivalent environmental outcomes' can be achieved with supply measures, some of which are influenced by flows from the northern Basin.
31. Second, the note states that the method may be applied using separate modelling runs for each region 'as necessary to determine relevant supply contributions.' It is arguable that the contribution associated with the MLS Supply Measure *cannot be determined* without undertaking a modelling run that includes a HIS on the Barwon-Darling. This is due to the clear relationship between the Barwon-Darling and inflows into Menindee Lakes.
32. Third, if there is a conflict between the note and the text of Schedule 6, the text prevails.²⁰ That is, if the substantive provisions of Schedule 6 can only be satisfied by including a HIS on the Barwon-Darling, this requirement prevails over the note to the extent of any inconsistency.
33. We recommend that you seek further clarification about this matter from an appropriately qualified expert.

Please do not hesitate to contact us to discuss this advice or any matters arising from this advice

Yours sincerely,

EDO NSW



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Policy and Law Reform Solicitor
Our Ref: 1722.

¹⁸ Ibid, p. 9. This map indicates that the northern-most indicator is Weir 32 on the Darling River, which is beneath Menindee Lakes.

¹⁹ See for example: *CIC Insurance Ltd v Bankstown Football Club Ltd* [1997] HCA 2; (1997) 187 CLR 384 at 408.

²⁰ *Fair Work Ombudsman v Wongtass Pty Ltd* [2011] FCA 633; (2011) 195 FCR 55 at [47].

Appendix 1



Submission in response to Proposed arrangements for shepherding environmental water in NSW – Draft for consultation

prepared by

EDO NSW
05 July 2012

About EDO NSW

EDO NSW is a community legal centre specialising in public interest environmental law. We help people who want to protect the environment through law. Our reputation is built on:

Successful environmental outcomes using the law. With over 25 years' experience in environmental law, EDO NSW has a proven track record in achieving positive environmental outcomes for the community.

Broad environmental expertise. EDO NSW is the acknowledged expert when it comes to the law and how it applies to the environment. We help the community to solve environmental issues by providing legal and scientific advice, community legal education and proposals for better laws.

Independent and accessible services. As a non-government and not-for-profit legal centre, our services are provided without fear or favour. Anyone can contact us to get free initial legal advice about an environmental problem, with many of our services targeted at rural and regional communities.

EDO NSW is part of a national network of centres that help to protect the environment through law in their [states](#).

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Introduction

EDO NSW welcomes the opportunity to comment on the *Proposed arrangements for shepherding water in NSW – Draft for consultation* (the **Draft**).

We would like to state at the outset that we support the development of an effective shepherding framework to optimise the use of Commonwealth Environmental Water (**CEW**).

We are nevertheless concerned that the *Proposed arrangements for shepherding water in NSW* (**Proposed Arrangements**) will not guarantee delivery of CEW to environmental assets in the Murray-Darling Basin (**MDB**). This is particularly problematic insofar as this water was purchased by the Commonwealth as part of their 'Restoring the Balance in the Murray-Darling Basin' (**RtB**) program. Under this program, the Commonwealth has committed significant public funds - \$1.3 billion dollars - to buying back water for the environment.²¹ Accordingly, all due care should be taken to ensure that CEW is indeed used to protect and restore water-dependent ecosystems in the MDB. EDO NSW therefore submits that the shepherding framework must be capable of realising and prioritising the environmental goals of the RtB program.

This submission is divided into three key sections.

- **Third party impacts** - The first section examines the *Memorandum of Understanding in relation to shepherding of water for the environment* entered into between the NSW Minister for Water and the Commonwealth of Australia (the MOU)²². Particular emphasis is placed on understanding the extent to which the MOU imposes an obligation on the NSW Office of Water to develop a shepherding methodology that avoids 'third party impacts.'
- **Implications for shepherding methodology** - The second section discusses the implications of developing a shepherding framework built around avoidance of 'third party impacts', and whether it is indeed permissible to design a methodology on this basis. Specific examples are provided.
- **Recommendations** - The third section comprises a series of recommendations intended to tighten the link between the terms of the MOU and the Proposed Arrangements with a view to improving delivery of shepherded water to environmental assets in the MDB.

²¹ <http://www.environment.gov.au/water/policy-programs/entitlement-purchasing/index.html>.

²² The MOU was entered into in July 2010.

1. Third party impacts

In July 2010, the NSW Minister for Water and the Commonwealth of Australia entered into a *Memorandum of Understanding in relation to shepherding of water for the environment* (the **MOU**). In response to this MOU, the NSW Office of Water developed the Proposed Arrangements.

EDO NSW submits that the Proposed Arrangements are required to be developed in accordance with the terms of the MOU. By way of evidence, the MOU specifies that it 'sets out principles and processes which the parties have agreed to facilitate shepherding of environmental water.'²³ The NSW Office of Water appears to be mindful of this obligation, noting in the Draft that '[the] MoU establishes a plan for investigating the development of a new water management framework to facilitate shepherding of CEW.'²⁴

In spite of this acknowledgment, the Proposed Arrangements have been developed on the basis that shepherding must – above and beyond any other consideration - avoid 'impacts' on third parties. Specifically, the Draft notes that:

*A key aspect of the MoU is the underlying principle that there will be no impact on third parties as a result of water shepherding. This principle is central to the proposed shepherding methodology.'*²⁵

EDO NSW accordingly submits that in our opinion, the Proposed Arrangements do not accurately reflect (*inter alia*) the Objective²⁶ or the Guiding Principles²⁷ the MOU. That is, the terms of the MOU cannot be reasonably interpreted as directing the NSW Office of Water to develop a shepherding framework that is built around the idea of 'no third party impacts'. Furthermore, the Proposed arrangements seemed overly focussed on preventing *negative* third party impacts, and do not adequately acknowledge the significant potential for third party *benefits*. Our analysis is based on the following observations.

First, the Objective of the MOU is to:

...optimise the use of all water for the environment, to provide the capacity to deliver water to high priority environmental assets, and, in the case of in-stream environmental watering, to provide protection for environmental flows to pass through the system as far as transmission losses allow.

This clause may be broken down into four key elements, namely:

- Optimising the use of water for the environment;
- Delivering water to high priority environmental assets;
- Protecting environmental flows; and
- Accounting for transmission losses.

While the reference to transmission losses may be broadly interpreted as protecting the entitlements of other users, it may not be construed as overriding the first three elements. That is, these three elements clearly indicate that the overarching Objective of the MOU is to procure improved environmental outcomes, *not* to avoid third party impacts.

²³ MOU, clause 4.

²⁴ NSW Department of Primary Industries (Office of Water), *Proposed arrangements for shepherding environmental water in NSW – Draft for consultation*, page 1.

²⁵ NSW Department of Primary Industries (Office of Water), *Proposed arrangements for shepherding environmental water in NSW – Draft for consultation*, page 1.

²⁶ MOU, clause 14.

²⁷ MOU, clauses 15 and 16.

Second, the Guiding Principles of the MoU, which are described as ‘the foundation for this MoU and the future action envisaged by this MoU’,²⁸ comprise ten principles which apply generally to the shepherding of environmental water. An additional five guiding principles apply specifically to the shepherding of CEW.²⁹

The first ten guiding principles include (but are not limited to): a prohibition on trading shepherded water for consumptive use;³⁰ a reference to climate change and its impact on long term flows;³¹ application of certain restrictions to shepherded water;³² use of rules-based over event-based water management where practical;³³ and incorporation of shepherding arrangements into water sharing plans (**WSPs**) where practical.³⁴ The additional five guiding principles include (but are not limited to): a requirement that the NSW Office of Water deliver CEW in order to meet the environmental objectives of the Commonwealth consistent with State and Commonwealth legislation and the MOU;³⁵ a requirement that the CEWH consult with relevant government agencies regarding the delivery of shepherded water;³⁶ and a prohibition on extracting water downstream in anticipation of CEW being made available as a result of a shepherding event from an upstream water source.³⁷

Of these fifteen guiding principles, only *one* refers to the relationship between shepherded water and other entitlements or allocations. Specifically, 15 (e) states that:

Entitlements and allocations held by water users in NSW will not be enhanced nor diminished as a result of environmental watering actions and shepherding of environmental water under this MOU.

Despite its minority status amongst the guiding principles, 15(e) appears to have been over-emphasised by the Office of Water resulting in the development of a shepherding methodology that seeks, above all, to avoid third party impacts.

This is problematic insofar as it constitutes a potentially skewed interpretation of both the subclause itself, and the guiding principles as a whole.

With respect to the former, the phrase ‘[e]ntitlements and allocations held by water users in NSW will not be enhanced nor diminished’ is not consistent with the notion of ‘no third party impacts’. Rather, it may be interpreted as meaning that a licence holder’s share in a given water source is to remain unchanged as a result of shepherding. This is not the same as avoiding all impacts on licence holders. For example, an impact that does not ‘diminish or enhance’ entitlements or allocations would be perfectly consistent with this subclause. Thus it would arguably be acceptable to include rules in a WSP that prohibit licence holders from pumping for a short period in order to facilitate a shepherding event. This will be discussed in greater detail in section 2.

With regards to the second, the guiding principles encompass fifteen separate principles. Clauses 15 and 16 of the MOU do not create a hierarchy with respect to these principles.

²⁸ MOU, clause 15.

²⁹ MOU, clause 16.

³⁰ MOU, clause 15 (c).

³¹ MOU, clause 15 (b).

³² MOU, clause 15 (f).

³³ MOU, clause 15 (h).

³⁴ MOU, clause 15 (i).

³⁵ MOU, clause 16(a).

³⁶ MOU, clause 16(b);

³⁷ MOU, clause 16 (e).

Accordingly, in our opinion the MOU does not empower the Office of Water to build an entire methodology around subclause 15(e).³⁸

We note that one additional clause in the MOU refers to impacts on other water users. Clause 19 of the MOU specifies that ‘...NSW water users will not be adversely impacted by shepherding the Warrego water gifted to the Commonwealth...’. We would like to reiterate that an ‘adverse impact’ may not be construed as being the same as *an impact*. As the wording of clause 15(e) suggests, an impact may be beneficial. EDO NSW would further submit that an impact may be so minor or inconsequential so as to not unduly disadvantage a third party. In other words, it could not reasonably be interpreted as adversely affecting that party.

Two additional points need to be made about clause 19. First, it only relates to a specific parcel of water. To that extent, it is limited in application. Second, like clause 15(e), it must be read within the context of the entire MOU. This context includes, notably, an Objective which is clearly oriented toward protecting CEW in order to procure improved environmental outcomes, as well as the 15 guiding principles.

EDO NSW further submits that both clause 15(e) and clause 19 must be read within the context of Schedule 3 of the MOU. This Schedule provides that the ‘Implementation Plan for Water Shepherding in NSW (Stage 1)’ is subject to the ‘National Partnership agreement on Water for the Future.’ The Schedule further notes that the ‘objective in the National Partnership is to secure water supplies and to assist with climate change adaptation.’³⁹

EDO NSW is familiar with the National Partnership. We are therefore aware that it seeks to ‘contribute to increase efficiency of rural water use, protect and improve the environmental health of freshwater and freshwater dependent ecosystems, prepare communities for climate change...’⁴⁰ While the National Partnership has a range of goals, it is clearly focussed on reducing consumptive use of water and improving environmental outcomes. In other words, its central guiding principle is not avoidance of ‘third party impacts.’

Schedule 3 also specifies that under the National Water Initiative, the Commonwealth:

has committed to be a financial partner in optimising the use of all water for the environment, to provide the capacity to deliver water to high priority assets, and, in the case of in-stream environmental watering, to provide protection for environmental flows to pass through the system as far as transmission losses allow.

This language, which mirrors word-for-word the Objective of the MOU, reiterates the clear link between water shepherding events and the realisation of specific environmental goals.

In conclusion, EDO NSW submits that the Proposed Arrangements must reflect the breadth of the MOU. As our analysis has indicated, this extends to creating a methodology that protects CEW for the purposes of advancing the MOU’s Objective. It is clear, therefore, that the MOU does not empower the Office of Water to make the principle of ‘no third party impacts’ ‘central to the proposed shepherding methodology’.⁴¹

³⁸ This in any case may not be interpreted as being synonymous with avoiding all impacts on third parties.

³⁹ MOU, Schedule 3, clause 1.

⁴⁰ Council of Australian Governments, National Partnership Agreement on Water for the Future, entered into in 2009.

⁴¹ NSW Department of Primary Industries (Office of Water), *Proposed arrangements for shepherding environmental water in NSW – Draft for consultation*, page 1.

2. Implications for shepherding methodology

EDO NSW submits that the decision to build a methodology around the notion of ‘no third party impacts’ undermines the intent of the MOU. The corollary of this is that water shepherding may be compromised, thereby reducing its capacity to achieve the environmental goals specified in the Objective, guiding principles and Schedule 3.

EDO NSW is accordingly concerned about certain aspects of the Proposed Arrangements. We will discuss each of these in turn.

Rules-based management

The *Water Management Act NSW (WM Act)* and associated WSPs are predicated on a rules-based approach to water management. While EDO NSW does not propose that this system be entirely reinvented for the purposes of facilitating water shepherding, we are mindful that:

...over the years it has proved difficult to protect rules-based [environmental] water from encroachments by entitlement-holders. The rules have always favoured entitlements when water supplies are reduced during droughts. The management rules have this bias because the original reason for building dams and regulating rivers was to supply water to agriculture and towns during the summer and in droughts when the natural flow is low. In addition, there is the burden of water theft, which the late Peter Cullen guesstimated was responsible for at least 20 per cent of all extractions. Most of that stolen water comes from the rules-based component of flow.⁴²

In light of the foregoing analysis, we are concerned that attempting to fit shepherding into an exclusively rules-based system weighted in favour of other entitlement holders (who must be protected from all impacts) will not ‘optimise the use of water for the environment.’⁴³ Rather, it may result in shepherded water being misappropriated and pumped by other licenced users.

While we acknowledge that entitlement holders may only pump in accordance with the conditions imposed upon their licence, there is a strong argument to be made in favour of protecting shepherded water as it moves through the system. First, there is no guarantee that the quantity of shepherded water pumped by other entitlement holders will be replaced by subsequent flows. Second, certain volumes of water are necessary to achieve particular environmental outcomes. This will be discussed in greater detail below under ‘Events-based management.’

Accordingly, EDO NSW is of the view that the WM Act and WSPs should be amended, with the latter including rules designed to protect shepherded water. For example, the relevant WSP(s) should include appropriate ‘cease to pump rules.’ This is perfectly feasible insofar as the MOU provides for the WM Act and WSPs to be amended in order to facilitate shepherding in accordance with the terms of the MOU.⁴⁴

⁴² Connell, Daniel, *The Role of the Commonwealth Environmental Water Holder*, in Connell, Daniel and Grafton, R. Quentin, eds, *Basin Futures Water reform in the Murray-Darling Basin*, ANU E Press, Australian National University, Canberra, 2011. Downloadable at: <http://epress.anu.edu.au/apps/bookworm/view/Basin+Futures+Water+reform+in+the+Murray-Darling+Basin/5461/ch20.xhtml>

⁴³ MOU, Objective (clause 14).

⁴⁴ MOU, clause 9. Clause 22 (d) also provides for WSPs to be amended in the period before permanent arrangements are agreed so as to ‘facilitate the shepherding of CEW.’

Events-based management

As our comments in the previous section indicate, EDO NSW advocates a combined rules and events-based management framework. As the Proposed Arrangements must reflect the terms of the MOU, we have taken care to ensure that a combined approach is indeed permissible. In short, clause 15(h) of the MOU provides for shepherded water to be managed on an events basis. While we acknowledge that this clause does specify that ‘rules based water shepherding arrangements will be implemented in favour of events-based water management where practical,’⁴⁵ we submit that rules-based management may not be practical in certain circumstances (where practical is defined to mean ‘likely to succeed or be effective in real circumstances; feasible’).⁴⁶

For example (and as noted in the previous section), there will be instances where the volume of shepherded water pumped by other licence holders will not be replaced by subsequent flows. In cases such as these, an exclusively rules-based management structure will not be successful or effective insofar as success or efficacy is measured against the MOU’s Objective, in particular optimising ‘the use of all water for the environment’ and delivering water ‘to high priority environmental assets.’⁴⁷

The Office of Water has indicated that events-based management is not feasible in an unregulated river system. EDO NSW submits that there is sufficient anecdotal and documented evidence (held by farmers and the NSW Government, respectively) regarding timings of flows along the Barwon-Darling. With this in mind, it would be possible to create cease to pump rules that apply for short, fixed periods to enable shepherded water to move safely through the system.

Further to our comments regarding the proper construction of clauses 15(e) and 19, we submit that the occasional imposition of cease to pump shepherding rules would not ‘diminish’ or indeed ‘adversely impact’ the entitlements and allocations of other water users.

Storage in Menindee Lakes and use within the Barwon-Darling

Further to our previous comments, EDO NSW supports a methodology whereby water may be either shepherded to the Menindee Lakes or alternatively used within the Barwon-Darling.

With respect to the latter, we note that the Barwon-Darling region contains 64 Key Environmental Assets (**KEAs**) and three hydrological indicator sites.⁴⁸ With this in mind, it would be consistent with the MOU and Proposed Murray-Darling Basin Plan to shepherd CEW to KEAs in need of specific volumes of water.

As the Murray-Darling river is by nature a ‘flood and drought’ system, certain KEAs will only require additional ‘shepherded’ water on a relatively infrequent basis (every five years, for example). EDO NSW understands that the CSIRO, together with other government agencies, possess the data necessary to manage watering of these assets.

We would like to reiterate that having scrutinised the MOU, we can find nothing that would prevent the Office of Water from creating a flexible management framework that enabled water to be shepherded either to KEAs within the Barwon-Darling or to the Menindee Lakes.

⁴⁵ MOU, clause 15 (h).

⁴⁶ Oxford Dictionary. <http://oxforddictionaries.com/definition/practical>

⁴⁷ MOU, clause 14.

⁴⁸ Murray-Darling Basin Authority, Summary of Barwon-Darling Region (From the Guide to the Proposed Plan). http://download.mdba.gov.au/FactSheet_Barwon-Darling.pdf

Individual daily extraction limits for shepherding WALs

Under the Proposed Arrangements, an individual daily extraction limit will be imposed on shepherding WALs. We submit that a daily limit is problematic for two reasons.

First, it reflects the undue emphasis placed on avoiding 'third party impacts'. Specifically, the daily limit is designed to avoid impacts on other licenced 'shareholders' in the Barwon-Darling.⁴⁹ As previously discussed, the MOU should not be interpreted so as to privilege these users over the environment. Further to this point, the MOU does not prohibit impacts on other entitlement holders; it merely specifies that entitlements and allocations may not be diminished as a consequence of shepherding. EDO NSW submits that a daily extraction limit is not necessary to protect the allocations of other licence holders. Rather, careful rules and events-based management of shepherded water will enable that water to be optimised for the environment without diminishing third party allocations. This will be discussed in greater detail later in this section.

Second, while CEW is held on a WAL, it is for all intents and purposes different to other licenced water insofar it was purchased by the Commonwealth with a view to restoring the health of the MDB. Placing a daily limit on a shepherding licence may compromise its capacity to be optimised for the purposes of achieving this goal. For example, specific timings and volumes of water are required to meet the ecological needs of KEAs. Placing a daily extraction limit on shepherding WALs will make it particularly difficult to manage them for the purposes of watering assets within the Barwon-Darling.

In light of this analysis, we strongly recommend creating a more flexible management system that recognises the true nature and purpose of shepherding WALs. We envisage this will involve a combination of WSP rules that allow for flexible management of extraction to meet environmental objectives at specific times. We imagine that larger extraction events would be relatively infrequent, and capable of being managed in such a way so as to not diminish other allocations (which we note may be extracted over an entire accounting year).

Forfeiting of water

Under the Proposed Arrangements, shepherded water that does reach the end-of-system within the fixed period 'because it is extracted by other licence holders or used in-stream' will be forfeited.⁵⁰ EDO NSW would like to make the following comments in respect of this proposal.

First, the example provided by the NSW Office of Water demonstrates why it is necessary to protect shepherded water with cease to pump rules. Again, as it is possible to estimate how long it will take this water to be shepherded through the tributary to the end-of-source, these rules can be imposed for a relatively short, fixed period.

Second, forfeiting water under these conditions arguably contravenes clause 15(e) of the MOU insofar as it potentially enhances the allocations of other water users.

Third, forfeiting shepherded water in these circumstances is again potentially based on an inaccurate construction of the MOU. That is, it reflects a desire to avoid all impacts – however trivial – on other entitlement holders at the expense of the environment. As stated, this is contrary to the terms of the MOU.

⁴⁹ NSW Department of Primary Industries (Office of Water), *Proposed arrangements for shepherding environmental water in NSW – Draft for consultation*, pages 10 -11 (shepherding within the Barwon-Darling); 15 (shepherding from regulated and unregulated tributaries to the Barwon-Darling).

⁵⁰ NSW Department of Primary Industries (Office of Water), *Proposed arrangements for shepherding environmental water in NSW – Draft for consultation*, page 12.

Menindee Lakes – first to spill

EDO NSW is concerned that the Proposed Arrangements will result in shepherded environmental water stored in the Menindee Lakes being treated as inferior to NSW and Victorian holdings. This is evidenced by the proposal for the ‘first spill’ to be debited from the Lower Darling shepherding WAL allocation account. This is not only inequitable, but will potentially undermine the purpose of shepherded CEW, which is to return water to the environment.

EDO NSW therefore recommends developing a more equitable accounting system that will protect and optimise shepherded water as per the MOU’s Objective.⁵¹

We also recommend that shepherded water stored in the Menindee Lakes that is used to meet critical human needs in Broken Hill be re-credited to the shepherding WAL allocation account when rainfall permits.

Accounting - carrying over water

The Proposed Arrangements outline the accounting methodology that will apply to shepherded water. We note that shepherding account balances originating from a parent licence in the Barwon-Darling will only be carried over from one accounting year to the next if this is permissible under the WSP for the Barwon-Darling.

EDO NSW is of the opinion that this will undermine the delivery of water to environmental assets. As previously indicated, specific volumes of water are required to meet the ecological needs of KEAs in the Barwon-Darling. With this in mind, it would be logical and indeed consistent with the terms of the MOU to develop an accounting system that permits shepherded water to be carried over for a certain number of years. In making this recommendation we would reiterate that CEW is qualitatively different to other allocations insofar as it was purchased with Commonwealth funds for the purposes of restoring health to the MDB. The accounting system used to manage shepherded water should therefore reflect its unique status.

3. Recommendations

In summary, EDO NSW makes the following recommendations with respect to the Proposed Arrangements. These Arrangements should:

- a) properly reflect the MOU, in particular its Objective and 15 Guiding Principles. Accordingly, the arrangements should not place undue emphasis on avoiding ‘third party impacts’ at the expense of optimising the use of shepherded environmental water;
- b) reflect the particular status of CEW. That is, CEW was purchased for the explicit purpose of restoring health to the Murray-Darling River system;
- c) comprise a combination of rules-based and events-based management. This will allow shepherded water to be optimised for the purposes of watering KEAs in the Barwon-Darling;
- d) provide for cease to pump rules to apply when water is being shepherded through the system;

⁵¹ MOU, clause 14.

- e) not provide for shepherded water to be forfeited if it does not reach the end-of-system within a fixed time. (We note that if (d) is implemented, the chances of water being forfeited are significantly reduced);
- f) create a flexible limit system that would involve a combination of WSP rules that allow for flexible management of extraction to meet environmental objectives at specific times;
- g) manage water that is stored in the Menindee Lakes in an equitable fashion. For example, shepherded water that is used to meet critical human needs should be re-credited to the shepherding WAL account; and
- h) provide for the Barwon-Darling WSP to include rules permitting shepherding account licences to be carried over for more than one year. This would enable CEW to be optimised for the purposes of watering KEAs at specific times.

Appendix 2

29 May 2015

Chayna Moldrich
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Sent by email: chayna.moldrich@dpi.nsw.gov.au

Dear Chayna

Draft NSW Prerequisite Policy Measures – Implementation Plan

Many thanks for your informative presentation outlining the Draft NSW Prerequisite Policy Measures (**PPMs**) and proposed implementation plan for each of these measures (**Draft Plan**). We enjoyed meeting both you and your colleagues, and look forward to further engagement as the policy process and eventual implementation for PPMs unfolds between now and 30 June 2016.

We note, however, that details of the eight supply measure sites where PPMs are to be implemented are yet to be published on your website. As discussed during our meeting, it is difficult to properly comment on the suitability of PPM options for each location in the absence of any information about those locations. We certainly understand that this is a complex process involving several units within NOW, however we seek further details regarding the supply measure sites in order to provide comprehensive feedback during the public exhibition period.

In the absence of this background information, our comments will focus on following areas:

1. Legal considerations
2. Principles for implementing the PPMs in NSW
3. Options for implementing environmental flow reuse
4. Options for piggybacking.

1. Legal considerations

As PPMs contribute to supply measures contributions which in effect increase SDLs, they are required to comply with certain provisions in the Basin Plan, and in turn the *Water Act 2007* (**Water Act**).

We note that adjustments to SDLs based on supply measures must result in two outcomes. First, 'there are to be equivalent environmental outcomes', with equivalent outcomes measured against the 'benchmark environmental outcomes.' Second, supply measures must avoid 'detrimental impacts on reliability of supply of water to the holders of water access rights that are not offset or negated.'⁵²

⁵² Basin Plan, 7.15 (1).

Of further consideration are the management objectives and outcomes to be achieved by the Basin Plan, outlined in Chapter 5. Relevantly, these include environmental objectives which are to give rise to a specific environmental outcome, namely 'the restoration and protection of water-dependent ecosystems and ecosystem functions in the Murray-Darling Basin with strengthened resilience to a changing climate.'⁵³

We note that this outcome is to be balanced with other outcomes, including 'greater certainty of access to Basin water resources.'⁵⁴ However we emphasise that this balance cannot be achieved – legally or practically – if consumptive use is protected at the expense of restoring and protecting water-dependent ecosystems and ecosystem functions.

Significantly, the Water Act, with which the Basin Plan must legally comply, states that SDLs 'must reflect an environmentally sustainable level of take' (**ESLT**).⁵⁵ As you would know, an ESLT is defined as the level of take from a water resource which if exceeded, would compromise the resource's key environmental assets, its ecosystem functions, its productive base or key environmental outcomes.⁵⁶ While we acknowledge that the various objects of the Act must be balanced,⁵⁷ as must the mix of elements underpinning the 'purpose of the Basin Plan',⁵⁸ it is our view that these are ultimately secondary to the implementation of an ESLT.

Finally, we cannot overestimate the importance of ensuring environmental watering under the Basin Plan implements – as per the requirements of the Water Act – the relevant environmental treaties to which Australia is signatory. These include the Ramsar Convention, the Convention on Biological Diversity, and various bilateral treaties protecting migratory birds.⁵⁹

2. Principles for implementing the PPMs in NSW

EDO NSW wishes to raise concerns with respect to two of the principles underpinning PPMs.

NSW will implement PPMs to the extent that third party impacts relating to both physical and reliability impacts can be negated or offset, or are acceptable to the community.

According to the Draft Plan, this principle is based on the clause reproduced above, according to which supply measures must have 'no detrimental impacts on reliability of supply of water to the holders of water access rights that are not offset or negated.'

'No detrimental impacts on reliability of supply' does not equate to 'no third party impacts' for the following reasons.

In the first instance, 'no detrimental impacts' is far narrower than 'no third party impacts'.

Second, what actually constitutes a 'detrimental impact' in this context is debatable. We would argue that an analysis of this issue must start with the clear fact that reliability of supply *is not absolute or guaranteed*. Rather, it is impacted by a variety of factors, the most

⁵³ Basin Plan, 5.03 (1), (2).

⁵⁴ Basin Plan, 5.05 (2) (c).

⁵⁵ *Water Act 2007*, s. 23.

⁵⁶ *Water Act 2007*, s. 4, definitions.

⁵⁷ *Water Act 2007*, s. 3.

⁵⁸ *Water Act 2007*, s. 20.

⁵⁹ *Water Act 2007*, s. 20. See also s. 3, objects.

important of which are rainfall, the quantity of water in storages and the State's allocation policies. The security level of a given licence will also influence reliability of supply, particularly during drier periods.

It is therefore apparent that supply is inherently variable, being continuously subject to the 'impacts' outlined above. This being the case, it is difficult – indeed impossible - to argue that environmental watering has a more detrimental impact on reliability of supply than these other factors. In fact, we would argue the reverse.

Furthermore, an impact will not always amount to a 'detrimental impact.' Certainly, protecting environmental water as it moves through the system may have an impact on other users, but properly managed this impact will not be unreasonable. It will certainly be far less detrimental than low rainfall or low storage levels.

Conversely, failing to protect environmental water may result in a short-term net benefit to other users at the expense of Basin health. This benefit may also result in breaches of the Water Act and/or Basin Plan if it occurs at the expense of statutory obligations (such as the reinstatement of an ESLT).

NSW will devise PPMs that facilitate the delivery of environmental water through the system.

According to the Draft Plan,

NSW's focus is on improving flexibility in the delivery of environmental water to achieve the outcomes sought under the Basin Plan. This is not the same as protecting licensed water from extraction through the system.

Building on our previous comments, failure to protect environmental water as it moves through the system may result in breaches of the Water Act and/or Basin Plan.

We therefore strongly support changes to rules to ensure that legislated environmental outcomes are achieved.

In making this recommendation, we note that rules can and are changed from time to time, and that these changes may impact certain users. For example, changes in 2012 to the Hunter Unregulated and Alluvial Water Sharing Plan exempting mining companies from cease-to-pump rules very likely had an impact on farmers in the area.

Furthermore and as with other legal instruments, water sharing plans and rules are subject to the will of Parliament and to that extent are not impermeable. Indeed, the *Water Management Act 2000 (WM Act)* empowers the Minister to change a water sharing plan by non-disallowable order,⁶⁰ rather than a disallowable legislative instrument or Bill. This certainly implies a desire to facilitate, rather than hinder, changes to water sharing plans.

3. Options for implementing environmental flow reuse

EDO NSW supports laws and policies which provide environmental water with the necessary protection to meet the environmental outcomes mandated in the Water Act and Basin Plan. We are strongly opposed to any options which place undue emphasis on so-called 'third party impacts' at the expense of these outcomes.

⁶⁰ *Water Management Act 2000*, s. 45 (1) (a). See also *Interpretation Act 1987*, ss. 21, 41.

Accordingly, we offer in principle support for the following options for multi-site watering, subject to certain conditions being met. Furthermore, we understand that some of these options may be better suited to certain supply measure sites. We look forward to providing more detailed comments when this information becomes available.

Shepherding – unregulated system

As outlined in our 2012 submission responding to *Proposed arrangements for shepherding environmental water in NSW*, we support this option subject to environmental water being protected from consumptive use as it moves through the system (amongst other stipulated protections). This submission is attached as a PDF document at the end of our letter.

Downstream debiting – regulated system

EDO NSW strongly supports this option. In guaranteeing delivery of environmental water, it is unlikely to breach either the Water Act or Basin Plan.

We are mindful of the fact that the current system does not provide for a licence holder to require a release from a dam to meet a water order. This is no doubt due to the fact that historically, regulated systems and the laws and rules that govern them were designed to meet the needs of consumptive users, not the environment.

While the WM Act already contemplates and provides for environmental watering, it is arguable that water management under the Basin Plan requires further amendments to the Act designed to maximise the use of environmental water, including a right to require the release of water.

We are also confident that appropriate risk management measures can be built into any amendments in order to avoid unduly prejudicing water operators.

Combination debiting – regulated

EDO NSW supports this option subject to losses excluding water pumped for consumptive use. Again, we propose rule amendments to optimise the use of environmental water as it moves through the system.

Return flow credits – regulated

We note that the WM Act already provides for the creation of 'return flow rules' which enable a user to recredit water to their account.⁶¹ To that end, the Act 'ruled in' this option despite the possibility that it may impact on other users. Again, we note that water supply and in turn the WM Act cannot be construed as seeking to avoid *all impacts* on users of consumptive water. Nevertheless, we are mindful that accurately estimating the timing and volume of releases is desirable both environmentally and socially. We are also mindful that this option (indeed all options) may be more suited to certain supply sites than others.

4. Options for implementing piggybacking

EDO NSW submits that the ability to call for the release of held water during an unregulated flow event ('piggybacking') is an important environmental tool. We would argue that contrary to the comments in the Executive Summary, achieving a 'peak outcome' is entirely consistent with ensuring ecological targets for certain indicator sites, including Ramsar-listed wetlands, are met.

⁶¹ *Water Management Act 2000*, ss. 75, 76.

Please do not hesitate to contact me if you have any further inquiries.

Yours sincerely,
EDO NSW

Dr Emma Carmody
Policy and Law Reform Solicitor



EDO NSW Sub
Shepherding July 201