The Hon Tony Burke MP

Minister for Sustainability, Environment, Water, Population and Communities

B12/1975

The Hon Craig Knowles
Chair
Murray-Darling Basin Authority
GPO Box 3001
CANBERRA ACT 2601

Dear Mr ~~Knowles~~ Craig

Further to my letter of 13 September 2012 in which I provided my initial suggestions on the Altered Proposed Basin Plan (the Plan) under section 44 (1) of the *Water Act 2007* (the Act), I am now providing further suggestions under section 44(1) of the Act for your consideration.

I am not returning the Plan to you at this time, to allow for the possibility that I may wish to make further suggestions.

Yours sincerely

Tony Burke

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Suggestions on the Proposed Basin Plan under section 44(1) of *Water Act 2007*

Suggestion
Chapter 1 - Definitions
1. To remove ambiguities from definitions, the Basin Plan should clarify that: • floodplain harvesting should refer to the taking of water from a floodplain including after it leaves a watercourse during a flood; • run off dam means a dam or reservoir that collects surface water flowing over land (and include a note to the effect that in NSW this would also apply to a dam that collects surface water in first or second order streams as defined in NSW law); • take by a runoff dam means the harvesting by a dam of surface water and does not include water from sources that are estimated in other forms of take; and • there is no overlap between the different forms of take.
Chapter 2
No suggestions.
Chapter 3
No suggestions.
Chapter 4
No suggestions.
Chapter 5
No suggestions.
Chapter 6 & Schedule 4 - Groundwater sustainable diversion limits
2. The approach to the management of groundwater resources in NSW needs to reflect the nature of particular groundwater information and policies recently provided by NSW. In this regard, the Basin Plan should: • consolidate the management of the Lachlan Fold Belt SDL Area into a single zone reflecting the Authority's assessment of risks that this will not impact sustainable use of this resource; and • revise the SDL for the Adelaide Fold Belt aquifer to 6.90 GL/y reflecting the Authority's latest estimate of the sustainable use of this resource. 3. To accommodate the resolution of differing views on a groundwater SDL in each of NSW (Western Porous Rocks aquifer (GS54) and Eastern Porous Rock (GS17)); and Victoria (Goulburn-Murray: Sedimentary Plain aquifer (GS8)), the Basin Plan should require that a review be done of the BDL and SDL for each of these aquifers within two years of the Basin Plan being made. These reviews must take into consideration all relevant information associated with these aquifers, including modelling and state planning arrangements and evaluation of the appropriateness of the precautionary factor. Available members of the Independent Expert Scientific Committee should be invited to participate in the reviews as well as two experts nominated by the relevant State. Depending on the outcome of these reviews, any changes considered desirable arising from the reviews would be given effect by either a formal amendment to the Basin Plan, or through the groundwater SDL adjustment mechanism, as appropriate.

4. The following revisions should be made to groundwater units in the Basin Plan on the basis that the NSW extraction limits represent the most up to date and improved quantification of the current level of development (plan limit) and do not materially change the Authority's understanding of the relevant groundwater resource units:
   - Manilla Alluvium (GS34) SDL and BDL to change from 0.51 to 1.23 GL/y;
   - Mid-Murrumbidgee Alluvium (GS35) SDL and BDL to change from 48.1 to 53.5 GL/y;
   - NSW Border Rivers Alluvium (GS36) SDL and BDL to change from 8.56 to 8.40 GL/y; and
   - Upper Namoi Tributary Alluvium (GS52) SDL and BDL to change from 0.34 to 1.77 GL/y.

5. The following revisions should be made to groundwater units in the Basin Plan to correct rounding errors:
   - Lower Murray Alluvium (Deep) (GS31) SDL and BDL to change from 88.8 to 88.9 GL/y;
   - Lower Gwydir Alluvium (GS28) SDL and BDL to change from 32.9 to 33.0 GL/y; and
   - Upper Lachlan Alluvium (GS48) SDL and BDL to change from 94.1 to 94.2 GL/y.

Chapter 6 – Informing future reviews of the Basin Plan

6. Future reviews of the Basin Plan should give further consideration to the management of climate change risks and all relevant knowledge about the connectivity of surface and groundwater, the outcomes of environmental watering and the effectiveness of environmental works and measures.
7. The Plan should acknowledge that the Authority intends to conduct research and investigations by 2015 into aspects of the Basin Plan in the northern Basin, including the basis for surface water and groundwater SDLs (noting the limited information available about groundwater in particular), and in doing so will draw on local community input that will be sought from relevant local bodies.

Chapter 6 & Schedule 5 - Sustainable diversion limit adjustment mechanism

8. The suggestions set out in paragraphs 9 to 13 are given on the assumption that the *Water Act 2007* is amended in accordance with relevant provisions of the Water Amendment (Long-term Average Sustainable Diversion Limit Adjustment) Bill 2012 (the Bill), which:
   a. enable the Basin Plan to provide for the Authority to propose SDL adjustments (proposed section 23A(1));
   b. require the Basin Plan to include criteria for determining the amount of any such adjustments (proposed section 23A(2)(a)); and
   c. require the Authority not to propose a SDL adjustment without seeking and considering BOC advice (proposed section 23A(2)(c)).
9. To give effect to these provisions, the Basin Plan should provide for the following:
   a. separate SDL adjustment mechanisms for surface water and for groundwater respectively based on the criteria and processes set out in the Plan; and
   b. the total Basin adjustment percentage (as defined in the Bill) for surface water and groundwater SDLs should be no more than net five per cent of the Basin reference limit (as defined in the Bill) for Basin surface water and groundwater resources respectively.
10. The Basin Plan should clarify the terms 'supply measure' and 'efficiency measure' or amend them in ways that would better reflect the nature of these concepts (for example, 'pre-take' measures and 'post-take' measures).
11. For the surface water adjustment mechanism, the Basin Plan should be amended to provide for the following:
    a. For 'supply measures' that result in a downward movement of the reduction amount (upward

movement of the SDL):

i. The mechanism should operate on 30 June 2016 to provide for the expected outcomes of all 'supply measures' through to 30 June 2024;

b. For upward movements of the reduction amount (downward movement of the SDL):

i. The mechanism should allow for adjustment in 2016 such that the recovery of additional water through 'efficiency measures' is reflected in the SDL as additional water entitlements are progressively acquired by the Commonwealth from 2016

ii. The Basin Plan should include a requirement that State water resource plans should give effect to the changes in the SDL arising through 'efficiency measures' on 30 June 2019, 30 June 2022 and 30 June 2024.

c. The surface water adjustment mechanism should provide for final calculation on 30 June 2024 to reflect

i. In the case of 'supply measures', any necessary reconciliation of associated adjustment amounts to account for any differences in measures not implemented or not implemented substantially in accordance with the specifications set out in 2016

ii. In the case of 'efficiency measures', the total amount of additional water entitlements acquired by the Commonwealth through 'efficiency measures' since 2016.

d. The Basin Plan should more clearly distinguish between water that is recovered through 'efficiency measures' and water recovered as part of the 'bridging the gap' commitment.

12. The Basin Plan should include criteria for determining adjustments to surface water SDLs due to 'efficiency measures' so that water recovery projects giving rise to an adjustment which reduces the SDL (i.e. for improved environmental outcomes) do not worsen social and economic impacts compared with 2750 GL impacts. This should be evidenced by the participation of farmers in programs providing investment in water efficiency and recovery projects on their farms, or, in the case of alternative arrangements proposed by a State, assessment by that State that the project(s) they propose will achieve neutral or improved socio-economic outcomes.

13. The Basin Plan should include criteria for determining SDL adjustments based on 'supply measures' based on Annex B.

14. For the groundwater adjustment mechanism, the Basin Plan should be amended to provide for the following:

a. the groundwater mechanism should operate on 30 June 2016 to enable time for the completion of the northern Basin review and in time for the adjusted SDLs to be incorporated into water resource plans in 2019, with enduring provision for further groundwater SDL adjustments from 2019; and

b. the criteria for determining adjustments to groundwater SDLs should be that that there is better information about recharge rates, and/or surface water connectivity, and/or usage and/or other factors that are relevant to the setting of groundwater SDLs.

Chapter 6 – Apportionment of the shared SDL surface water reductions

15. As agreed by Commonwealth, state and territory governments, the southern shared SDL reduction should be apportioned to states based on the baseline diversion limits for each state and territory, inclusive of water diverted for urban water use, but exclusive of interception activities as defined in the Basin Plan. Accordingly, the 971 gigalitres per annum shared reduction target should be apportioned as follows:

- NSW 47.2 per cent of total (458.0 GL of 971 GL per annum);
- Victoria 43.8 per cent of total (425.3 GL of 971 GL per annum);
- South Australia 8.5 per cent of total (82.8 GL of 971 GL per annum); and
- Australian Capital Territory 0.5 per cent of total (4.9 GL of 971 GL per annum).

16. To facilitate this apportionment, the southern Basin shared zone should be expanded to include

the Australian Capital Territory.

17. The Basin Plan should clarify that for both the southern and northern Basin shared zones, state and territory governments are required to nominate how the shared SDL reduction is to be apportioned at the catchment level within their jurisdiction by the time any SDL adjustment notice is provided to the Minister. This nomination should be undertaken by formal communication from the state and territory government to the Authority.
18. The Basin Plan should require that for both the southern and northern Basin shared zones, if state and territory governments have not notified the Authority of their preferred catchment level apportionment by the time any SDL adjustment notice is provided to the Minister, the Authority will apply a default approach that is consistent with the approach used for state-based apportionment. Catchment level apportionment should be given effect by the time any SDL adjustment notice is provided to the Minister.
19. The Basin Plan should require that the Authority advise the Basin Officials Committee of any proposed SDL adjustment at least one month before providing a notice to the Minister.

Chapter 6 and related schedules – Minor amendments

20. To provide greater clarity in the description of the baseline diversion limit, the note associated with the Eastern Mount Lofty Ranges (SS13) water resource plan area (Schedule 3, Item 27) should be amended to the effect that the Authority estimates the baseline diversion limit to be 28.3 GL comprised of 15.3 GL per year of watercourse diversions and 13 GL per year from runoff dams and commercial forestry.
21. To provide consistency in the methods used to describe baseline diversion limits (except where the reference was to a final WRP or other instrument), the three items in Schedule 3 (8, 25 and 29) that refer to the Murray-Darling Basin Agreement - Schedule E in defining their baseline diversion limit watercourse diversions should include a fixed reference date to Schedule E as in effect at 30 June 2009.

Chapter 7 – Reporting obligations

22. To improve clarity, the Basin Plan should include a time limit of three months from the end of the water year to apply to the reporting obligation where Basin annual environmental watering priorities are not followed (section 7.44), which should align with the annual reporting requirement of Matter 10 in Schedule 11.

Chapter 8

23. The Basin Plan should clarify wording in 8.14(5)(c) to read 'not exceed' rather than to 'meet'.

Chapter 9

No suggestions.

Chapter 10

No suggestions.

Chapter 11 – Water trading rules

Irrigator infrastructure operators

24. The current provisions for irrigation infrastructure operators to give notice of irrigation rights, water delivery rights and trading rules apply to operators that exist when the trading rules commence in July 2014. There is ambiguity about whether these obligations apply to operators (and new rights or rules) that are created after commencement in July 2014. To provide greater certainty on compliance requirements, the trading rules in the Basin Plan should be clarified to ensure the same obligations apply to all new operators, operators that create new irrigation rights, water

delivery rights or trading rules and operators that become subject to Rule 15 of the Water Charge (Infrastructure) Rules 2010.

Water shepherding

25. Further to the Ministerial Council s43A(7) consensus notice on this matter, the Basin Plan should require these arrangements be reviewed after five years and for advice of the Australian Competition and Consumer Commission to be sought in that review.

General

26. The Commonwealth's intentions to improve socio-economic and environmental outcomes under the Basin Plan and SDL Adjustment Mechanism, are set out in Annex A. These intentions include a number of Commonwealth commitments that will be reflected in a range of instruments related to the Basin Plan, but do not create additional legal obligations within the Plan itself.

ANNEX A

Commonwealth intentions for the Basin Plan and Sustainable Diversion Limit Adjustment Mechanism

1. Use the Sustainable Diversion Limit (SDL) Adjustment Mechanism in order to maximise environmental outcomes in ways which avoid detriment to social and economic concerns.

2. Based on the different modelling runs which have been undertaken, it is an objective for the mechanism to allow environmental works and measures to achieve environmental outcomes associated with 2,750 GL of held water to be achieved with a lower volume of held water – noting that some jurisdictions anticipate that it may be possible to develop such projects which would effectively bridge the gap to an equivalent of 650 GL of water.

3. For all jurisdictions to participate in constraints removal so as to allow environmental water to be used to maximum effect and to maximise benefits from upward movement in the volume of held water to where social and economic impacts are neutral or positive.

4. To provide a pathway which allows the Commonwealth to acquire an additional 450 GL of environmental water beyond the starting point of the plan by utilising the mechanism contained in the plan.

5. Through utilisation of the mechanism through combination of downward adjustment of environmental works and measures and upward adjustment to provide a level of held environmental water and improved river operations to achieve:

    a. enhanced environmental benefits from the provision of an additional 450 GL of water and the removal of physical constraints, including improved outcomes for the River Murray floodplain, River Murray river water quality, estuarine health, Murray mouth opening, higher average lake levels, increased in-stream flows and variability.

6. Pursue environmental outcomes that are described in the 3,200 GL model run with constraints removed, specifically:

    a. reducing salinities in the Coorong and Lower Lakes salinities so as not to exceed levels which are lethal to insects, fish and plants that form important parts of the food-chain, for example:

        - maximum average daily salinity in the Coorong south lagoon is less than 100 grams per litre;
        - maximum average daily salinity in the Coorong north lagoon is less than 50 grams per litre;
        - average daily salinity in Lake Alexandrina is less than 1000EC for 95% of years and 1500EC all of the time.

b. keeping water levels in the Lower Lakes above 0.4 metres AHD for 95% of the time and above 0.0 metres AHD at all times helping to maintain flows to the Coorong, prevent acidification, and prevent acid drainage and riverbank collapse below Lock 1;

c. maintaining the Murray Mouth at greater depths reducing the risk of dredging being needed to keep it open (the Murray Mouth is open without the need for dredging in at least 95 per cent of years, with flows through the barrages every year);

d. exporting two million tonnes per year of salt from the Basin as a long term average;

e. increasing barrage flows to the Coorong and supporting more years where critical fish migrations can occur for estuarine fish;

f. in conjunction with addressing constraints, providing opportunities to actively water an additional 35,000 hectares of floodplain in SA, NSW and Victoria, improving the health of forests and fish and bird habitat, improving the connection to the river, and replenishing groundwater; and

g. enhanced in-stream outcomes and improved connections with low level floodplain and habitats adjacent to rivers in the Southern Basin.

7. Restore the Murray Darling Basin to health and establish its long term future as a healthy working basin;

8. The Commonwealth Minister would not make a SDL adjustment without considering impacts on Ramsar sites including the Coorong, Lower Lakes and Murray Mouth site;

9. Optimise environmental social and economic outcomes for the Murray Darling Basin;

10. Provide for healthy rivers, strong communities and sustainable food production;

11. Ensure that the plan when reviewed is able to properly consider updated information in impacts of climate change and impacts of any change management arrangements which occurred as a result of this plan;

12. Establishment by the Commonwealth of the Water for the Environment Special Account; and

13. The water recovery task to bridge the gap is already well in hand with nearly 1600 GL of the 2750 GL benchmark already held or secured under contract, and much of that already delivering water allocations for environmental use. The remaining gap to reach the benchmark is 1150 GL, which averages to 165 GL per year, with only 40 GL per year of this to be recovered through buy back if the yield from environmental works and measures is 650 GL and the yield from infrastructure investment is 600 GL.

ANNEX B

CRITERIA AND METHOD FOR SDL ADJUSTMENTS

Revise method and criteria as currently outlined in 6 August plan for 'supply measure' adjustments to reflect the following suggestions.

Method for 'supply measure' adjustments

1. Allow scope for an alternative method to be developed based on scientific advice and consultation with Basin jurisdictions while keeping the current method as the default.

2. Revise the description of the benchmark model used for SDL adjustments to the existing 2800 GL model run, with the Living Murray works and measures removed and a specific set of model refinements as follows:

    a. adjust the overall reduction from 2800 GL/year to 2750 GL/year;

    b. incorporate appropriate rules for delivery of water from the Lower Lakes into the Coorong, including relating Lake level to release volumes;

    c. incorporate Upper South East inflows as at 30 June 2009;

    d. incorporate updated environmental watering event time-series for without development and baseline model runs in the environmental event selection tool;

    e. remove the operation of the Living Murray works and use the component of the Living Murray water that was used by the works for floodplain outcomes;

    f. incorporate environmental demand sequences that manage for maximum dry spell as well as frequency; and

    g. incorporate environmental flow demands for the Goulburn River consistent with the flow event targets described in the MDBA 2012 Hydrological Modelling Report.

3. Include a requirement that refinements to the benchmark model run will be undertaken in active consultation with Basin jurisdictions through the Basin Officials Committee.

4. Based on the above, provide clarity that the benefit of the Living Murray works and measures can be considered through application of the adjustment mechanism.

5. Provide clarity that, to the extent that the following policy settings included in the benchmark model, are not achieved, they will result in an SDL adjustment to ensure the equivalent environmental outcomes are achieved, noting that any associated third party impacts associated with these policies would need to be assessed and addressed as appropriate:

    a. crediting of environmental return flows for downstream environmental applications; and

    b. the ability to call environmental water entitlements from storage during un-regulated flow events.

Criteria for equivalent environmental outcomes

6. Include criteria to ensure that equivalent environmental outcomes from the operation of the adjustment mechanism encompassing:

    a. Separate application of the mechanism to the following regions: northern basin, southern basin and, if necessary, disconnected rivers of Lachlan and Wimmera;

    b. Scientifically based measures for weighting environmental significance which may comprise the Environmental Watering Plan criteria for identifying key water-dependent ecosystems, and measures of the relative area of inundation and measures of key ecosystem functions;

    c. A scientifically peer reviewed approach for assessing equivalence by combining flow frequency and dry spell measures of environmental outcome;

    d. Limits of change to specific environmental outcomes within a region so that:

        i. for each region of the Basin — no reduction in the benchmark environmental outcome scores will occur;

        ii. for the Coorong, Lower Lakes, Murray Mouth the following will be maintained or improved;

            1. Lake Alexandrina salinity: less than 1500EC for 100% of the time and less than 1000EC for 95% of days;

            2. Barrage flows: greater than 2000GL/yr on a three year rolling basis with a minimum of 650GL in any year to be achieved for 95% of years;

            3. Barrage flows: greater than 600GL in any two year period, to be achieved for 100% of the time;

            4. Coorong salinity: South Lagoon maximum average daily salinity less than 100 grams per litre in 96% of days; and

            5. Mouth openness: Mouth open to an average annual depth of 1m or more for at least 90% of years and 0.7 metres for 95% of years;

        iii. for all river channel requirements (base flows and freshes) within each reach there will be no reduction in outcomes achieved in the benchmark run.

            Note: These limits of change are for the purpose of modelling SDL adjustment and do not necessarily represent environmental watering or management targets.

    e. It is suggested that the MDBA consult further with Basin governments in finalising options for safety nets for floodplains.

7. Clarification that, if there are no proposed 'supply measure' adjustment projects on a tributary, then it would not be necessary to develop scoring metrics for that tributary.