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Submission Review of Barwon-Darling Water Sharing Plan

Introduction

The Inland Rivers Network (“IRN”) is a coalition of environment groups and individuals that has been advocating for healthy rivers, wetlands and groundwater in the Murray-Darling Basin since 1991.

IRN has followed the making of the Water Sharing Plan for the Barwon-Darling Unregulated and Alluvial Water Sources (BD WSP) since the formation of River Management Committees (RMC) in 1998. Active members of IRN held community environmental representative positions on the Barwon-Darling RMC that negotiated the rules for water sharing and river management.

IRN lodged a substantive submission to the draft version of the BD WSP as placed on public exhibition for comment in December 2011, prior to the Murray-Darling Basin Plan (Basin Plan) being adopted by the Commonwealth Government in 2012. A copy of this submission is attached as an appendix.

Many of the comments made are as pertinent now as they were 8 years ago, if not more so, for this review process.

We are very concerned that the health of the Barwon-Darling River has significantly declined since the commencement of the water reform program in Australia. This was instigated by the Council of Australian Governments (COAG) in 1994 in response to the world’s longest blue-green algae bloom in the Darling River in the early 1990’s.

Background

The Barwon-Darling River supports a range of significant environmental values that are recognised as being under threat.

The NSW Fisheries Act has listed the Lowland Darling River aquatic ecological community as endangered. This includes all native fish and aquatic invertebrates within all natural creeks, rivers, streams and associated lagoons, billabongs, lakes, flow diversions to anabranches, the anabranches, and the floodplains of the Darling River within the State of New South Wales, and including Menindee Lakes and the Barwon River.

Murray Cod (*Maccullochella peelii peelii*) has been listed as critically endangered under the IUCN Red List and vulnerable under the Federal *Environment Protection and Biodiversity Conservation Act 1999*.

There are a significant number of threatened species listed in the Darling Riverine Plains IBRA region and the Darling Depression IBRA subregion.

The river benches, waterholes, billabongs and floodplains, as well as the main stem of the river itself, are important environmental assets that need to be considered in relation to water sharing arrangements. The significant decline in native species dependent on the Barwon-Darling Water Source is a strong indication that the natural flow regime has been severely impacted over time and must be reinstated.

The Aboriginal cultural significance of these native species and of the river itself must also be taken into account.

Water sharing arrangements in the Barwon-Darling and associated tributaries were managed under the Interim Unregulated Flow Management Plan for the North West 1992 and rules developed by the RMC until such time as the BD WSP was finalised. The process of gazetting the BD WSP was very lengthy with no transparency.

The BD WSP gazetted in 2012 provides considerably greater water access to extractive industries than both the Interim Unregulated Flow Management Plan for the North West and the draft WSP exhibited for public comment.

The current BD WSP fails to meet the environmental objectives of the NSW *Water Management Act 2000* and does not meet the environmental objectives of the Basin Plan or the Commonwealth *Water Act 2007*.

Natural Resource Commission Review

IRN welcomes the independent review of the BD WSP. This process is timely for the development of the Water Resource Plan (WRP) as required under the basin Plan.

IRN has been disappointed by the approach taken by the NSW Government towards the requirement to develop WRPs across inland NSW under the Basin Plan. The deadline to have Sustainable Diversion Limits (SDL) operating by July 2019 is now under threat because of the political reluctance in NSW to develop WRPs in a timely manner.

The SDL proposed for the BD WSP is highly contentious and must be independently reviewed.

We trust that the Commission will conduct a rigorous independent process and consider the information provided in this submission.

Evaluation of BD WSP

1. To what extent do you feel the water sharing plan is meeting its objectives and aligns with the objectives of the *Water Management Act 2000*?

1.1 Objectives of the BD WSP

The Background Document to the BD WSP¹ outlines the objectives of the plan are to:

- protect, preserve, maintain and enhance the important water dependent ecosystems, Aboriginal cultural and heritage values
- protect basic landholder rights
- manage the water sources to ensure equitable sharing between users
- provide opportunities for market based trading of licences and water allocations
- provide flexibility for licensed water users in how they can use their water
- contribute to the maintenance of water quality
- recognise the connectivity between surface water and groundwater
- allow for adaptive management, that is, to allow changes to the plan to be made as a result of more information that will become available during the life of the plan
- contribute to the environmental and other public benefit outcomes identified under the National Water Initiative.

Note. Socio-economic impacts were a major consideration in the development of the rules in the plan and are reflected in the objective to ‘manage the water sources to ensure equitable sharing between users’.

The BD WSP is not, in fact, based on equitable sharing between users and has benefited the large irrigators in the Bourke and Barwon river reaches to the detriment of all other downstream water users, including the ecological health of the river.

The BD WSP has failed to meet the environmental and cultural heritage objectives, the protection of basic landholder rights, the maintenance of water quality, connectivity between surface and groundwater, and to contribute to the environmental and other public benefits identified under the National Water Initiative.

The recent intensive drought has been extended in the Barwon-Darling because of the level of extraction of low flows, the unlimited carryover, the 300% share component for extraction, the failure to implement Individual Daily Extraction Limits (IDELS) and the increased pump sizes permitted by the BD WSP.

¹ NSW Department of Primary Industries, Sept 2012. Background Document *Water Sharing Plan for the Barwon-Darling Unregulated and Alluvial Water Sources* p2

Specifically:

- The access threshold for extracting water from the Barwon Darling has been significantly reduced (from 11,000ML/day to 1,200ML/day).
- Permitted pump size limits have increased from 150mm to 900mm.
- “A” class water can now be stored for future use, rather than pumped directly onto crops as was previously the case.
- Some “B” and “C” class water can now be converted to “A” class (which has much greater reliability) with no change to entitlement volume – ie 1:1.
- Continuous accounting and carry-over provisions up to 300% are now permitted, meaning that irrigators can hold up to 300% of their licenced volume at any given time.

This means that 1 year in 3, the river can be pumped dry upstream of Bourke. Less water will reach Menindee Lakes, meaning that they will remain below the critical 640GL trigger point where control passes from NSW to the MDBA and water becomes available for downstream use.

The BD WSP fails to protect the important range of flows required to protect, preserve, maintain and enhance the important water dependent ecosystems, including the management of capture of flood flows through floodplain harvesting.

This has resulted in the catastrophic environmental disaster of the fish kills, the very poor water quality that caused the deoxygenation of the river and the loss of basic rights and town-water supply for communities on the Darling River below Bourke.

1.2 The objectives of NSW *Water Management Act 2000*

S3 Objects

The objects of this Act are to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations and, in particular:

- (a) to apply the principles of ecologically sustainable development, and*
- (b) to protect, enhance and restore water sources, their associated ecosystems, ecological processes and biological diversity and their water quality, and*
- (c) to recognise and foster the significant social and economic benefits to the State that result from the sustainable and efficient use of water, including:*
 - (i) benefits to the environment, and*
 - (ii) benefits to urban communities, agriculture, fisheries, industry and recreation, and*
 - (iii) benefits to culture and heritage, and*
 - (iv) benefits to the Aboriginal people in relation to their spiritual, social, customary and economic use of land and water,*
- (d) to recognise the role of the community, as a partner with government, in resolving issues relating to the management of water sources,*
- (e) to provide for the orderly, efficient and equitable sharing of water from water sources,*
- (f) to integrate the management of water sources with the management of other aspects of the environment, including the land, its soil, its native vegetation and its native fauna,*
- (g) to encourage the sharing of responsibility for the sustainable and efficient use of water between the Government and water users,*

(h) to encourage best practice in the management and use of water.

In regard to the principles of water sharing, the NSW *Water Management Act 2000*. S5 (3) states:

- (a) *Sharing of water from a water source must protect the water source and its dependent ecosystems; and*
- (b) *Sharing of water from a water source must protect basic landholder rights; and*
- (c) *Sharing or extraction of water under any other right must not prejudice the principles set out in paragraphs (a) and (b)*

IRN considers that the BD WSP fails to align with these objects and principles. The dependent ecosystems of the Barwon-Darling River system have suffered significant decline since the BD WSP was gazetted. The loss of a range of flows available to the water source has been significant.

This has also impacted on other down-stream users and industries dependent on water access and seasonal availability.

The BD WSP has not applied the principles of ecologically sustainable development and has failed to adopt any of the requirements of the objects outlined above.

The health of the Barwon-Darling River system has declined significantly since the implementation of the NSW *Water Management Act 2000*.

As noted in the Background Document ‘Socio-economic impacts were a major consideration in the development of the rules in the plan’. However, these considerations were restricted to impacts on the large-scale irrigation industry and not on the socio-economic impacts on other water users such as towns, stock and domestic licence holders, basic rights, floodplain graziers and significantly, Aboriginal people with cultural connections to the river.

The sharing of water in the BD WSP has prejudiced the principles set out in S5 (3) (a) and (b).

2. Can the water sharing plan better contribute to environmental outcomes? If so, how?

The BD WSP can better contribute to environmental outcomes by:

- a) Reinstating the flow rules in the Interim Unregulated Flow Management Plan for the North West 1992
- b) Contributing to the reduction in extractions as required under the 1994 cap
- c) Including formal rules to protect held environmental water, as well as planned environmental water
- d) Implementing a first flush rule to protect flows after a period of no flow
- e) Implementing end of system flow targets to provide connectivity
- f) Returning the access trigger for water extraction to 11,000 ML/day
- g) Establishing Total Daily Extraction Limits for each Class

- h) Establishing Individual Daily Extraction Limits for each Class. These must not be allocated as a tradable right.
- i) Limiting carryover to 100% of allocation
- j) Reinstating the 3 year rolling average to 450% of allocation
- k) Removing the right to store Class A water
- l) Removing the right to convert Class B and Class C water to Class A
- m) Limiting pump sizes
- n) Implementing commence-to-pump rules that are above cease-to-pump rules

3. Can the water sharing plan better contribute to social outcomes? If so, how?

The BD WSP can better contribute to social outcomes by:

- a) Adopting the above rule changes
- b) Providing cultural flows, native title rights and adopting the objectives to foster sustainable and efficient use of water to include *benefits to the Aboriginal people in relation to their spiritual, social, customary and economic use of land and water*
- c) Ensuring town water supply and critical human needs
- d) Providing specific flow rules for basic rights access
- e) Providing specific flow rules for fish passage to support the recreational fishing industry and tourism
- f) Reducing the volume of floodplain harvesting to be compliant with a sustainable Plan Limit

4. Can the water sharing plan better contribute to economic outcomes? If so, how?

The BD WSP can better contribute to economic outcomes by:

- a) Adopting the above rule changes
- b) Adopting the above social outcomes
- c) Recognising the economic value of a healthy river for all users
- d) Implementing best practice in water management and efficient use of water

5. Do you have any other comments that you would like the Commission to consider?

A significant improvement to the rules in the BD WSP are needed before it can be included in the WRP and therefore meet the objectives of the Basin Plan and Commonwealth *Water Act 2007*.

A number of additional considerations and investigations are needed:

5.1 Cap modelling and management

The expansion of water extraction in the Barwon-Darling since the implementation of the 1994 Cap has been significant.

Water use in the catchment has not been adequately managed or reliably reported.

The issue of modelling assumptions, key inputs and manipulation by water managers needs to be independently reviewed by modelling experts.

The Barwon-Darling has been significantly over Cap and reporting on this matter is less than transparent. The BD WSP must be amended to bring the water extraction back under Cap.

5.2 Modelling for the development of the WRP

The underlying issues with water modelling for the Barwon-Darling has also influenced the inputs into the development of the WRP including the WSP Plan Limit and the SDL.

The modelling exercises undertaken to develop the Base Diversion Limit scenario (BDL) and the Pre Basin Plan (PBP) scenario also need to be independently reviewed.

An estimate of the BDL was made at the time the Basin Plan was formulated.

According to DoI Water, the BDL is based on a particular model scenario, based on the WSP rules for that water resource. This scenario is the level of irrigation development at 1993/94 and management arrangements at 1999/2000. The Basin Plan allows for this estimate to be revised whenever it can be demonstrated that a better estimate is available.

IRN is concerned that the process around revising the BDL across all water sources in inland NSW has been less than transparent and highly manipulated to increase water extraction.

A revised BDL results in a commensurate revised SDL for the water source.

The PBP scenario is the model configured with the development conditions and management arrangements that currently exist.

The PBP scenario gives the best estimate of long term average water use under current conditions, and forms the baseline for WRP scenario development.

The PBP scenario differs from the BDL scenario in its development conditions and management arrangements.

The results from the PBP scenario will be used as a basis to establish what current long term average diversions are compared to SDL.

The major differences between BDL and PBP scenarios is the level of development that includes the maximum developed area, crop mix and crop planting decision, and the management arrangements including distribution of entitlements, held environmental water, inflows to the system and other variables.

There is also the very complex and opaque issue relating to the use of Cap factors or the planning assumptions relating to Long-term Diversion Limit Equivalent in regard to licence entitlements held by the Commonwealth Environmental Water Holder. All licence entitlements must be treated equally in all modelling scenarios.

These issues are significant for the ongoing management of water extraction in the Barwon-Darling in regard to the development of the WRP and the included BD WSP.

All the modelling assumptions and scenarios for the Barwon-Darling need to be independently reviewed.

The NSW Government has prioritised no third party impacts in all decision-making processes to the detriment of improved environmental outcomes in the WRP development.

5.3 Floodplain Harvesting (FPH)

The BD WSP when gazetted included an estimated volume of 16.5GL of FPH extraction.

The NSW Government is currently undertaking a review of volumes of FPH across the Northern Basin catchments.

The volume of FPH in the Barwon-Darling is likely to be significantly higher than the estimate included in the BD WSP.

The Plan Limit must not be extended to include additional FPH extraction.

The current review of FPH modelling assumptions and outcomes is yet to release a final report. The work being undertaken by this review should be replicated for all modelling work undertaken for the Barwon-Darling water source.

5.4 Climate Change predictions

Increased heat, higher evaporation rates, prolonged droughts, loss of soil moisture are all elements of climate change predictions that are beginning to be experienced in the Barwon-Darling catchment.

The river has already suffered unnatural water shortages through high levels of extraction upstream and in stream. These impacts have caused significant ecological damage as demonstrated by the catastrophic fish kills over summer.

The Status and Issues paper (Nov 2017) developed by DPI Water to stimulate discussion on the BD WSP outlines that there have been reductions in median daily flows of 33% at Mungindi and 73% at Wilcannia due to water extraction.²

It is critical that planned environmental water is not lost from the river system due to climate change impacts. System losses must be shared across all water users.

5.5 Reports on water management in NSW

The various recent investigations and reviews into water management and planning in NSW and the Murray-Darling Basin have raised significant issues that the Commission must take into account when reviewing the BD WSP.

These include, amongst others, the:

- Matthews Report November 2017

² DPI Water, 2017. Barwon-Darling Watercourse Water Resource Plan, Status and Issues Paper p15

- Australian Academy of Sciences Report February 2019. Investigation of the causes of mass fish kills in the Menindee Region NSW over the summer of 2018 - 2019
- Independent Assessment of the 2018-2019 fish deaths in the Lower Darling
- Murray-Darling Basin Royal Commission Report 2019
- Productivity Commission 5 year assessment of Basin Plan December 2018