Submission Number: 32
Date received: 18/6/2012

SC

18 June 2012

Committee Secretary
House of Representatives Standing
Committee on
Regional Australia
PO Box 6021
Parliament House
CANBERRA ACT 2600
AUSTRALIA

Conservation Council SA

Address The Conservation Centre
Level 1, 157 Franklin Street
Adelaide SA 5000

Phone (08) 8223 5155
Fax (08) 8232 4782

Email general@conservationsa.org.au
Web www.conservationsa.org.au

ABN 22 020 026 644

Re: Inquiry into certain matters relating to the proposed Murray-Darling Basin plan

As the peak conservation body for South Australia, the Conservation Council of South Australia (Conservation Council SA) welcomes the opportunity to comment on the **Inquiry into certain matters relating to the proposed Murray-Darling Basin plan**.

Conservation Council SA is an independent, non-profit and strictly non-party political organisation representing around 50 of South Australia's environment and conservation organisations and their supporters. Conservation Council SA has developed a comprehensive view of environment policy in "South Australia in a Changing Climate: A Blueprint for a Sustainable Future"[1] This document sets out, at a strategic level, policy positions in six key environmental areas, including water issues.

Our submission focuses points 2 and 3 of the Terms of Reference.

2. The potential role that new environmental works and measures projects could play in partially offsetting SDL reductions under the Basin Plan, focussing particularly on prospective project proposals identified by state governments and community interests.

[1] http://www.conservationsa.org.au/blueprint.html

3. The groundwater sustainable diversion limits (SDLs) for Basin in the revised proposed Basin Plan.

I would also be happy to meet with you or your representatives to discuss these matters in more detail.

Yours sincerely

Tim Kelly

Chief Executive

Comments

2. The potential role that new environmental works and measures projects could play in partially offsetting SDL reductions under the Basin Plan, focussing particularly on prospective project proposals identified by state governments and community interests.

First and foremost the Murray-Darling Basin Plan must comply with the Water Act 2007 and restore sufficient water to the environment to restore the ecological values and ecosystem services of the Basin. As such the role of environmental works and measures projects should be to supplement environmental flows not offset SDL reductions.

The proposed basin plan already fails to return sufficient water to the system to achieve the hydrological targets, environmental targets and environmental outcomes necessary for a healthy basin. The core problem with the proposal to offset SDL reductions is that as initial levels of reductions are already inadequate, the offsetting proposal can only further entrench an inadequate plan, preventing progress towards the environmentally sustainable level of use.

As stated by the Wentworth Group of Concerned Scientists in the *Canberra Times* on June 13, 2012:

> "The flow of water through the flood plains and wetlands is the ecological engine room of the system, the stomach, liver and lungs. It is fundamental to the health and function of the basin and the fish, birds, invertebrates and, ultimately, people that call it home. There is no "waste" of water in this process. Every reduction in water flowing down the system compromises this process a little more.
>
> The Murray-Darling Basin Authority understood this process but also recognised it would be near impossible to model every flood plain, wetland and section of the rivers in the basin to determine the minimum amount of water needed for a healthy working river. To deal with this challenge the authority developed a model which looked at a selection of sites, with a focus on the largest and most water-intensive wetlands and flood plains as a proxy.
>
> The assumption behind this approach is that as you deliver the water down the system to the bigger sites it will be watering the many smaller, but equally important, flood plains and wetlands upstream and downstream as it moves through. The authority states that "environmental water requirements specified at hydrologic indicator sites are intended to represent the broader environmental flow needs of river valleys or reaches and thus the needs of a broader suite of ecological assets and functions"."

Offsetting SDLs reductions by using environmental works and measures projects runs the risk of compromising the "ecological engine." The Murray-Darling Basin is an already highly engineered and compromised river system. It needs more water across all its remaining environmental assets not strategic delivery of water to key

sites. Relying on engineering solutions will potentially only benefit a few key sites, and does not acknowledge the ecological connectivity of the basin as a whole or the hydrological connectivity with aquifers. By reducing the flow of water down the river and focusing only on key sites, we compromise aquifer recharge and ecosystem services the Basin provides.

Where environmental works and measures projects could be used to supplement environmental flows include upgrading the barrages separating the Coorong and Lower Lakes in South Australia (See Attachment 1 for more details). Upgrading the barrages would allow more timely and appropriate delivery of flows between the Lower Lakes and Coorong as well as preventing ingress of salt.

Recommendation - Environmental works and measures projects should supplement and complement SDL reductions not act as an offset.

3. The groundwater sustainable diversion limits (SDLs) for Basin in the revised proposed Basin Plan.

Interactions between surface water and groundwater in Australia are poorly understood. The science is still in its infancy and there is still much to learn about how Australia's groundwater systems interact with surface water and vice versa as well as what are the cumulative impacts of over-extraction from either resource.

While the reduction in groundwater SDLs from 2553 GL to 1400 GL is welcome, it does not go far enough given the gaps in our knowledge of the connectivity between surface water and groundwater in the Basin. We can not be sure what impact this would have on the downstream water or future water availability.

The Wentworth Group of Concerned Scientists examined[2] the MDBA's reasoning for increasing groundwater and identified four key flaws in it:

1. The groundwater environmentally sustainable levels of take (ESLTs) in the draft Basin Plan have been derived using unjustified assumptions.
2. The assumptions adopted to calculate the ESLTs ignore much of the long-term connectivity of surface and groundwater
3. There has been a steady increase in the Baseline Diversion Limit - the current level of usage of groundwater – which is then used to justify increased groundwater use
4. The draft Basin Plan fails to identify impacts on groundwater dependent ecosystems

[2] Wentworth Group of Concerned Scientists (2012) Analysis of Groundwater in the 2011 Draft Murray-Darling Basin Plan http://www.wentworthgroup.org/uploads/Wentworth%20Group%20analysis%20of%20groundwater%20in%20the%202011%20draft%20Basin%20Plan.pdf

What effect this may have on the targets can only be guessed, but given the connection between groundwater and surface water systems, the Wentworth Group's assessment is:

> "Ultimately the failure of the draft Basin Plan to include the impacts of the increase in groundwater extractions in the surface water modelling means that the surface water Sustainable Diversion Limits are unlikely to deliver the claimed outcomes and water users who rely on extractions from the Basins rivers will see their water asset eroded as the upstream groundwater users extract the water first.
>
> The failure to adequately analyse the impacts of increasing groundwater extractions on surface water means the draft Basin Plan will not adequately protect environmental assets, particularly those dependent on low flows."

By default, surface and groundwater systems should be considered as connected. Use from connected groundwater water systems should be covered by the SDLs. Any ground water systems found to be disconnected from surface water should only be allocated when a system groundwater allocation plan has been completed

Given the entire premise of the Basin Plan is to correct decades of over-allocation of surface water resources, to repeat the same mistake in the absence of full scientific knowledge on groundwater connectivity is indefensible.

Recommendation - The precautionary principle must be applied when considering the groundwater SDLs for the basin.

Attachment 1

Conservation Council SA

Briefing Paper - Measures to protect the Lower lakes, Coorong and Murray Mouth over and above volumetric sufficiency under the proposed Basin Plan.

1 Pre-requisite - Sufficient water flow to:

- flush 2 million tonnes of salt and other accumulated pollutants/sediment out to sea (and any increase in future);
- keep the Murray Mouth open naturally at all times;
- maintain sufficient water level for the Lakes Alexandrina and Albert and to have the capacity to vary this water level to achieve the following outcomes:
    - salinity in the 750-1000 EC units range for Lake Alexandrina 95% of time and never over 1500 EC;
    - salinity in the 1500 - 2500 EC units range for Lake Albert 95% of the time;
    - the lakes to vary between +0.35 mAHD as an absolute lowest level with regular (at least every 3 years), short (2-4 weeks) periods of +0.9 mAHD to inundate the samphire;
    - salinity levels for the Coorong be seasonally adjusted;
    - outcome based targets for restoring key ecosystem species and indicator species that have been severely harmed in this already compromised eco-system are established and achieved.

- underpin the health of the Coorong, its key food plants and all species that depend on this ecosystem. (The best science should underpin any options to increase local flows to the lower Coorong as there are risks to the effectiveness of this option and other environmental impacts);
- achieve all hydrological and environmental outcomes required to ensure a healthy river in its entirety including the, Lakes Alexandrina, Albert, Coorong and Murray Mouth system (with a modicum of certainty, higher limits give greater certainty) and progressively remove or manage system constraints to achieve these higher flows towards 2019. As each constraint is removed, the extra flow must go to increase the SDLs;

2. Improvements to the barrages

- Further infrastructure improvements for barrages more rapid operation and greater flow through at the right times.
    - Manually operated gates are not sufficient to manage the system on a daily basis in regard to tidal changes, storms and wind variation;
    - A proportion of automated gates appear to either not work or suffer from poor reliability;
    - A greater number of reliable automated gates are required in certain areas e.g. Boundary Creek;
- The barrages must be upgraded to stop salt water ingress. Leakage through concrete stop log portions of the barrage is significant particularly during periods of high tide, low levels in Lake Alexandrina and the Goolwa Channel (compounded during frequent southerly winds);
- Additional fish passages are required in certain areas of the barrages;
- A review of the operational plan of the barrages to better integrate with the environmental needs of the lakes and Coorong, to better provide variation of lake levels that best supports changeover of water and environmental outcomes. When environmental watering plans are completed, the operation of the barrages should be directed towards delivery of these plans in addition to maintaining a division between salt and fresh water;
- Stronger linkages with biodiversity experts in planning the operation of the barrages and timing of openings and closures;
- Further upgrades to prevent ingress of sea water/salt water through the barrages when Lake Alexandrina and the Goolwa Channel are at a low level.

3. Improving the water changeover into Lake Albert

- Sufficient flows (see above 1) and barrage improvement (see above 2);
- Optimise the timing of lake height variation to enhance water changeover, for example, lower lake head in advance of inflow pulses;
- Fully remove remnants of the temporary bund and return the Narrung Narrows to original bathymetry;
- Further infrastructure measures and proposed improvements should only be undertaken where detailed environmental impact assessment confirms that these measures do not cause further significant environmental harm:
    - Investigate the dredging of the Narrung Narrows to increase flows and turnover, ensuring safeguards against further environmental harm;
    - Investigate the removal of the causeway that is restricting water flows through the Narrung narrows and determine if this can be

achieved in a way that prevents further environmental harm from mobilising silt;

- A proposal to open lake Albert to the Coorong is not supported due to significant environmental issues.

4. Additional water from upper South East drainage schemes and South East water transfersthe

Current proposals to increase water flows to the southern Coorong from Upper South East drainage schemes and water transfers are not supported. The volume of water these proposals would deliver are small and are insufficient to offset a reduction of environmental flows from the Basin.

Before such an option is considered further, a detailed Environmental Impact Assessment would need to address the following matters:

- Such schemes are reliant on yet further changes to the region continuing a history of South East drainage infrastructure that significantly harmed the natural environment, surface and groundwater systems;
- The potential quantity of the water is likely to be unreliable especially during drier periods and may make little volumetric contribution towards improving salinity;
- The water quality is likely to be unsuitable for the Southern Coorong with potentially high levels of nutrients and agricultural chemical residues, risking accumulation, algal blooms and die off events when introduced to warm shallow water;
- Water transfers from within the Upper South East may result in further harm to other environmental assets;
- The ecological characteristics of the South East water are different to the Southern Coorong and could potentially import undesirable organisms.

5. Response to the Meningie Narrung Lakes Irrigators Association Five Point Plant for Lake Albert and the Coorong.

The Meningie Narrung Lakes Irrigators Association has proposed the following Five Point Plan for Lake Albert and the Coorong.

1. Remove the Narrung Ferry Causeway
2. Remove the Narrung Bund in its entirety
3. Dredge the whole of the Narrung Narrows
4. Install a pipeline at the southern end of Lake Albert to the Coorong
5. Return natural flows to the southern end of the Coorong

The Conservation Council of SA does not support point 4. The installation of a pipeline between Lake Albert and the Coorong would not improve the water quality of the Coorong for the following reasons

- The volumes of water are insufficient to flush the water in the Coorong
- Due to the low volumes, the piped water would remain stagnant, evaporate and increase the salinity of the Coorong
- Building a pipeline would damage an already fragile ecosystem
- Does not compensate or replace inadequate natural flows into Coorong, Lower Lakes and Murray Mouth.

Points 1,2,3 and 5 are supported, where the natural flows in point 5 are interpreted to mean end of river flows through the Murray Mouth. Point 4 should not be considered, building a pipeline would provide no real benefit to the Coorong or Lower Lakes.