

10th September 2008

**The Secretary
Senate Standing Committee on Rural and Regional Affairs and Transport
Parliament House
Canberra ACT 2600**

Inquiry into Water Management in the Coorong and Lower Lakes

Public Submissions

Thank you for the invitation to make a submission to your inquiry. I write as a dryland farmer and member of a small rural community. It therefore goes against my natural bent to advise your Inquiry that we need to fundamentally and urgently change our patterns of agriculture in the Murray-Darling Basin (MDB). As argued by Åsa Wahlquist in *Thirsty Country*¹ (required reading for members of your Inquiry?), we have managed Australia's rivers with a mindset that has been inherited from Europe and is inappropriate for our landscape. We face one choice: do we change that mindset before or after we destroy significant portions of our most important river system?

I wish your inquiry well. You have an important job before you.

1. Water management in the Coorong and Lower Lakes, report by 30 September 2008

a. Water audit

An independent audit of all water resources currently held in both private and public storages is essential. I commend your Inquiry for commissioning such an audit.

b. Water losses in the Lower Lakes

I note the paper prepared by Brooks and South ("Applying a localised Water Balance approach to estimate losses from Lake Alexandrina and Lake Albert for the years 1970 to 2006". 2008.) that argues that a net median value of 400 GL/year is lost from Lake Alexandrina and Lake Albert. The paper was prepared for Lower River Murray Drought Reference Group and draws on previous work by Vincent Kotwicki, Flinders University. It points to three deficiencies in past estimates: lack of a coefficient to discount readings from land-based evaporation pans, rainfall on the lakes surface and local inflows from Eastern Mount Lofty Ranges. I ask you to consider the paper in your deliberations. It may take much less water to save the Coorong and Lower Lakes than has been previously estimated.

¹ *Thirsty Country*, by Åsa Wahlquist. Allen and Unwin, 2008. ISBN 978 174175 484 1

2. Long-term sustainable management of the Murray Darling Basin system, report by 4 December 2008

a. The scope of over-allocation

Approximately: we current allocate a nominal amount of 12,000 GL/year under Murray-Darling Basin Commission (MDBC) control. The river cannot support more than 8,000 GL/year, the volume allocated in 1981, the year that the Murray Mouth closed for the first time.

MDBC website advises that 95% of diversions are to irrigation. To sustain a working, health river we must choose between:

- (i) Reducing all allocations by 33%
- (ii) Reducing the number of licence holders from 15,000 (current number) to approximately 10,000. This is the implied objective of the current buyback strategy.

A healthy working river—our common objective—can support irrigation, but not at the levels developed over the past thirty years. On our present trajectory we are going to have a major ecological collapse in the Murray estuary. It will be publicized globally as the first major environmental disaster of this century, unfolding in one of the world's richest and best educated democracies. Australians will be shamed and industries such as tourism and dryland agricultural exports will be threatened by loss of a clean, green image that has been carefully nurtured over recent decades. The electorate will be unforgiving once it is understood that a mere 5,000 irrigation enterprises stand between sustainability and collapse. The end result will be a public backlash against all MDB irrigation and an arbitrary downsizing that will be unfair and inefficient.

The challenge before your committee is to change our current trajectory so that irrigation can be reduced *before* the ecosystem collapses.

b. Buyback strategy

The current buyback strategy will not work quickly enough to save the river. Water licences are the prime financial asset of many (most?) irrigators and even for those who are willing to leave irrigation there is financial incentive for them to postpone selling because water is a diminishing resource that will inevitably appreciate in value. It makes business sense to hold on to an appreciating asset.

To overcome this impasse, I recommend that the Federal government maintain the current buyback process until 2012, but to commit to achieving a limit of 8,000 GL/year from the following year by applying a proportionate reduction to all outstanding licences.

c. Regional population incentives

Irrigation is capital-intensive and unsustainable where it is dependent upon over-allocation. I ask that government help river communities to move to knowledge-intensive industries with a future. In particular, I suggest that research and educational institutions with a focus on climate change and sustainable agriculture should be (re)located in localities where reductions in irrigation allocations will be

most severe.

I am sure that you need no advice on how tenaciously rural communities will fight for survival. But they will also respond to positive options. I sincerely hope that your Inquiry can provide some.

d. Office locations, Murray-Darling Authority

Enlightened administration of any Australian river requires an estuary mindset. As we see now in the Coorong and the Lower Lakes, it is at a river's estuary that management failure and success most obviously register. I recommend strongly that the new Authority should be headquartered in Goolwa, to foster an appropriate custodial culture for senior staff and for consumptive users who will work with them. For the same reasons, regional offices for the Authority should be placed at key river junctions where major tributaries meet the Murray and Darling channels. This approach will also contribute to the population strategy outlined above.

e. Salinity

The 1999 *Salinity Audit*² presents salinity as a threat that in the long term is greater than drought. In particular:

- (i) A doubling of salt exports to the ocean to 4 million tonnes/year by 2100.
- (ii) A doubling of salt mobilised to the land surface to 10 million tonnes/year by 2100.
- (iii) Consideration that plants grown under irrigation require greater volumes of water if the salinity of that water increases.

I request that your Inquiry commission expert advice on the salinity impacts of:

- (a) A single flood event equivalent to that of 1956
- (b) A return to median inflow levels for a five-year period.

Your Inquiry should thereby be informed on salinity risks either if prevailing expectations on climate change (which include extreme events such as flooding) are vindicated or not.

f. Ramsar agreement

Australia is at present not honouring its Ramsar commitment to maintain the ecological condition of the Coorong and Lower Lakes site as at 1985. This failure will contribute to the likely loss, as detailed above, of our clean and green image. It will also diminish Australia's standing in global environmental matters, and in particular in forums concerned with climate change and carbon emissions.

g. Current (COAG) Intergovernmental Agreement

The current COAG agreement is fundamentally flawed.

² Murray-Darling Basin Ministerial Council. *The Salinity Audit of the Murray-Darling Basin. A 100-Year Perspective*, 1999. ISBN © Murray-Darling Basin Commission. ISBN 1 875209 85 9

- (i) Unrealistic timetable. Handover to a single Federal authority is not completed until 2019. By then, the entire ecosystem will have collapsed.
- (ii) Proposed governance structure will be as unworkable as its predecessors because it continues to be subject to agreement by State and Territory ministers.
- (iii) Crucial tributary systems, Goulburn and Murrumbidgee, are to be excluded.
- (iv) Groundwater and surface waters are to be treated as separate entities. In fact they are manifestations of an integrated system.

The proposal should be dropped immediately. It continues fragmented and competing human jurisdictions that bear no relation to the natural river system. The only responsible course for any State or Territory government is to unconditionally and immediately cede all MDB authority to the Federal government. In the words of Oliver Cromwell, “You have been sat to long here for any good you have been doing. Depart, I say, and let us have done with you. In the name of God, go!” We face a crisis: it cannot be solved with a ‘business as usual’ approach.

h. End of System Flow management

I recommend that water allocation restrictions should be based upon end of system flow predictions for a current ‘water year’. Restrictions should be introduced once the predicted flow falls below 2,500 GL out of the Murray Mouth.

- == Geddes 2007³ has calculated that a 40km long estuary from Goolwa to Pelican Point was established from a total flow of 280Gl over 42 days in 2005. Extrapolated, this approximates to 2,400 Gl/year
- == Scientific Reference Panel reported⁴ to Murray Darling Basin Commission in 2003 on the probability of maintaining a healthy working river: HIGH probability with new environmental flows of 3350 Gl/year; MODERATE probability with new environmental flows of 1630 Gl/year.
- == Median flow through the last 109 years has been 2677 Gl/year, which has barely maintained estuary health.
- == 2,500 Gl/year approximates to only 20% of natural (pre-settlement) outflow of 12900 Gl/year⁵.

i. Lower Lakes. Fresh or estuarine?

I judge that sea water rarely if ever reached beyond Point Sturt into Lake

³ Geddes M.C. and Wedderburn S. D. (2007). Fish monitoring below tidal barrages in Boundary Creek and Mundoo Channel during freshwater inflow to the River Murray estuary in 2005 and 2006. Prepared for the Department of Water, Land and Biodiversity Conservation. The University of Adelaide, Adelaide.

⁴ Ecological Assessment of Environmental Flow Reference Points for the River Murray System. Interim Report, October 2003. Page 17. ©Cooperative Research Centre for Freshwater Ecology.

⁵ Environmental Flows for the River Murray. Report on the Development of Options Prepared for the Murray Darling Ministerial Council from Murray-Darling Basin Commission Meeting 31, 12 April 2002 Page 6. © Murray-Darling Basin Commission 2006

Alexandrina⁶ and that contrary misunderstandings come from verbal histories dating back to the devastation of the Federation drought and stories about isolated ocean fish venturing into fresh water (but not breeding). I suggest that your Inquiry should seek authoritative advice on this issue, which at present is confusing debate about the impact of removing the Goolwa Barrages.

j. Future of MDB Irrigation Industries

China has stated its intention of emerging as the world's largest wine producer and is using Australian winegrowers to lift its technology. I see no reason why it should not succeed. I can also see no reason—in our global economy—why irrigation technologies used to grow rice and cotton on our dry plains in Queensland and NSW should not also be picked up and used by nations with natural advantages for growing those crops.

We shall not be forgiven by our descendants if we destroy the ecology of the Basin to win only temporary reprieve for industries which have no future.

k. Ecology or exports

Every bottle of Jacob's Creek red on a British supermarket shelf has cost 550 litres of MDB water. All of our cotton is exported and each tonne of cotton lint costs 5,300 litres of water. On industry averages, at least 50% of MDB produce is sent overseas. We are exporting water and destroying our natural heritage as we do so. I challenge your committee to find a way to stop us from being so foolish.

⁶ A Fresh History of the Lakes: Wellington to the Murray Mouth, 1800s to 1935. Terry Sim and Kerri Muller © River Murray Catchment Water Management Board, 2004.